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1    UNITED STATES DISTRICT COURT
     SOUTHERN DISTRICT OF NEW YORK
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3    UNITED STATES OF AMERICA,

4              v.                           22 CR 673 (LAK)

5    SAMUEL BANKMAN-FRIED,

6                   Defendant.              Trial
     ------------------------------x
7
                                           New York, N.Y.
8                                          October 6, 2023
                                           9:35 a.m.
9

10   Before:

11
                        HON. LEWIS A. KAPLAN,
12
                                           District Judge
13
                             APPEARANCES
14
     DAMIAN WILLIAMS
15        United States Attorney for the
          Southern District of New York
16   BY:  DANIELLE R. SASSOON
          NICOLAS ROOS
17        DANIELLE KUDLA
          SAMUEL RAYMOND
18        THANE REHN
          Assistant United States Attorneys
19
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20        Attorneys for Defendant
     BY:  MARK S. COHEN
21        CHRISTIAN R. EVERDELL
          SRI K. KUEHNLENZ
22        DAVID F. LISNER

23   Also Present:
     Luke Booth, FBI
24   Kristin Allain, FBI
     Arjun Ahuja, USAO Paralegal Specialist
25   Grant Bianco, USAO Paralegal Specialist
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1   (In open court; jury not present)

2   THE COURT: Good morning, all.

3   MR. ROOS: Good morning, Judge. We have one matter.

4   We're going to be playing one recording that we have a

5   transcript for. We have in individual binders for each of the

6   jurors, if that's okay with your Honor.

7   THE COURT: Yes. I think you brought that up last

8   night.

9   MR. ROOS: Yes, I just wasn't sure if we actually

10   resolved it because the jury was coming in.

11   MR. COHEN: Your Honor, just very quickly, one of the

12   jurors rode in the elevator with one of my colleagues today.

13   Can your Honor give the standing instruction. Obviously they

14   didn't talk up the way, but I think just to let the jury know.

15   THE COURT: I will. Thank you.

16   MR. ROOS: I think that's no objection from the

17   defense to the transcripts then.

18   MR. COHEN: No.

19   THE COURT: Boy, you're being careful.

20   MR. COHEN: No objection.

21   THE COURT: Life is so much easier when lawyers treat

22   each other with appropriate respect and, dare I say, affection.

23   MR. ROOS: Your Honor, should we get the witness?

24   THE COURT: That's a good idea. Thank you.

25

1   (Jury present)

2   THE DEPUTY CLERK: Please be seated, everyone.

3   THE COURT: Good morning, folks. Before we get

4   started, let me just say something that I normally say, perhaps

5   may have said already. It goes without saying that none of you

6   should have any contact with any of the lawyers or the

7   witnesses whatever, and if you should happen to find yourself

8   riding in an elevator or something like that with somebody else

9   involved in the case, obviously you shouldn't speak to one

10   another, and nobody should be offended if somebody who you

11   would normally say good morning to doesn't say good morning to

12   you, and they will understand if you don't say good morning to

13   them. Just avoid any possibility of somebody thinking that

14   something inappropriate got said by not saying anything.

15   Okay. Let's go. Mr. Wang, you're still under oath.

16   Mr. Roos, you may proceed when you're ready.

17   MR. ROOS: Thank you, your Honor.

18   GARY WANG, resumed.

19   DIRECT EXAMINATION

20   BY MR. ROOS:

21   Q. Mr. Wang, yesterday you said that there were certain

22   advantages or privileges that Alameda had. Where did those

23   advantages or privileges exist?

24   A. In the computer code that was powering FTX.

25   Q. So what exactly do you mean by the computer code?

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1   A.   The computer code is a set of instructions that are given

2   to computers so that the computers know what to do.   So

3   computer code is――it's text, so it's human readable, and it

4   gets taken by a computer or by a server somewhere and it runs

5   those instructions to do whatever it is that you're telling

6   them to do.

7   Q.   And when it comes to a website like FTX, are there

8   different parts of the computer code?

9   A.   So there's the front-end code that runs on your computer

10   or――that runs on your computer or on your phone when you access

11   a website, and then there is the back-end code, which runs on

12   the server and keeps track of the data in the system and runs

13   all the――runs all the trading, all the auto-matching, all the

14   back-end processing.

15   Q.   Can you give us an example of a website we might be

16   familiar with that has a front-end and back-end computer code.

17   A.   So one example is Google.com.   So when you go on Google,

18   either on your phone or on your computer, you see, you know,

19   you see this――you see this front page, you see the Google logo,

20   you see a search box, you see a search button, and so that's

21   all powered by the front-end code, so that code tells――that

22   code tells your computer, you know, where to draw the logo,

23   where to put the text box and all that stuff.   And then when

24   you type something in and click the search button, that gets

25   sent over to the Google back end, which is Google's back-end

1   code, which is running on——in Google's data center somewhere,

2   and there the back-end code then takes——takes your search

3   inquiry and looks up the results, and from——from some giant

4   database it has of all the web pages it knows about, and then

5   sends that back over to your computer, and that's the back-end

6   portion of that.

7   Q.   So let's talk about front end and back end for the FTX

8   website.

9   MR. ROOS: And why don't we put up Government

10   Exhibit 1567, which is in evidence.

11   Q.   So, Mr. Wang, is this the front end or the back end of the

12   website?

13   A.   The front end.

14   Q.   And what does the code do with respect to the front end of

15   FTX's website?

16   A.   So it determines——so it controls what images show up, what

17   text shows up, how they're formatted, and where they appear on

18   the page relative to each other.

19   Q.   And let me show you another picture of a website.

20   MR. ROOS: Could we show the witness Government

21   Exhibit 1563.

22   Q.   Do you recognize this?

23   A.   Yes.

24   Q.   What is it?

25   A.   It's a screenshot of the wallet page on FTX.

1   MR. ROOS: The government offers 1563.

2   MR. EVERDELL: No objection.

3   THE COURT: Received.

4   (Government's Exhibit 1563 received in evidence)

5   MR. ROOS: May we publish it.

6   THE COURT: You may.

7   BY MR. ROOS:

8   Q.   So Mr. Wang, now that the jury can see it, what are we

9   looking at here?

10 A.   So this is a screenshot of the wallet page on FTX.

11 Q.   Okay. And how is FTX's computer code involved here,

12 generally?

13 A.   So the——the front-end code controls the various text

14 formatting of the page and its tables, and the back-end code

15 keeps——keeps track of what——the back-end code keeps——and the

16 database keeps track of what balances you have, what——what

17 coins, what coins you have, how much of each you have, and then

18 the back end sends it over to the front end, which then is

19 responsible for formatting it and displaying it on the page.

20 Q.   Let me just break your answer down a little bit.

21   So starting at the top left corner of the page, do you

22 see where it says Wallet?

23 A.   Yes.

24 Q.   And below it, it says Total Net USD Value?

25 A.   Yes.

1 Q.   So what do those refer to?

2 A.   So that refers to the approximate total value in US dollars

3 of—of the balances of your accounts.

4 Q.   So this represents the amount of money the customer has in

5 the account.

6 A.   Yes.

7 Q.   And how is the computer code involved with displaying the

8 account balance?

9 A.   So the—the back-end code keeps track of what your balances

10 are and what the value of each of those balances is, and then

11 it adds them up and it sends it over to the front end, which

12 then displays the number.

13 Q.   Do you see lower on the screen, below the word Balances, it

14 lists some little coin icons? Do you see that there?

15 A.   Yes.

16 Q.   And do you see kind of looking across, the names of the

17 coins and then balance numbers?

18 A.   Yes.

19 Q.   Okay. How is the computer code involved in displaying

20 those balances?

21 A.   So the back end has—in the database keeps track of which

22 coins you have and how much of each coin you have, and it also

23 knows how—and it also keeps track of approximately how much,

24 what the value of each coin that you have is. And then it

25 takes those numbers and sends them over to the front end, which

1   then displays these numbers.

2   Q.   So when a customer looked at a balance in their account

3   here, what were the balances supposed to represent?

4   A.   They——it represents what coins——what tokens and what——what

5   coins and how much of each they have in their accounts.

6   Q.   Now to the right it looks like buttons for Deposit and

7   Withdrawal. Do you see those?

8   A.   Yes.

9   Q.   Are those buttons?

10   A.   Yes.

11   Q.   And how is the computer code involved with those Deposit

12   and Withdrawal buttons?

13   A.   So in the front-end code, it controls what happens when you

14   click those two buttons, so either Deposit button or the

15   Withdrawal button. It will pop up a dialogue asking you how

16   much you want——say, for example, for the Withdrawal button, it

17   asks you how much, you know, how much you want to withdraw and

18   to where. Then when you type something in, it sends out over

19   to the back, you can——

20   Q.   So let's talk about the back end. What is the back end of

21   the FTX database?

22   A.   So the back end of FTX, so it——it's——there's the database,

23   which keeps track of all the accounts and how much is in each

24   account, and also keeps track of all the transactions that

25   happen on FTX, so all the deposits, all the withdrawals, all

1   the trades, all the trading that happens, and all the—all the

2   fees from those trades, and then the back end is also

3   responsible for taking orders that people place and matching

4   them against each other so that trades happen. It's also

5   responsible for managing deposits and withdrawals, and

6   it's—and it's also responsible for keeping track of risks

7   and—and positions and how much—and what happens when

8   you—your accounts gets liquidated and all that, and things

9   like that.

10   MR. ROOS: Okay. Mr. Bianco, we can take down this

11   exhibit.

12   And the government now offers Government Exhibit 2002,

13   which is a stipulation, and pursuant to that stipulation, the

14   government offers Exhibit 1731.

15   THE COURT: They are received.

16   (Government's Exhibits 2002 and 1731 received in

17   evidence)

18   MR. ROOS: May we publish Government Exhibit 1731?

19   THE COURT: Yes, sir.

20   BY MR. ROOS:

21   Q.   Mr. Wang, can you describe what we're looking at.

22   A.   This is a screenshot of a query to the FTX database and the

23   results from that query.

24   Q.   When you say the FTX database, is that the database you

25   referred to a few minutes ago?

1   A.   Yes.

2   Q.   This is part of the back end of the website; is that right?

3   A.   Yes.

4   Q.   When a customer does a transaction on FTX, does that show

5   up in this back-end database?

6   A.   Yes.

7   Q.   So just in terms of this portion of the back-end database,

8   what kind of information does it provide?

9   A.   So this is the accounts table in the database, so

10 it's—which keeps track of the—of all the accounts

11 on—accounts and system accounts on FTX, so it has—so going to

12 the columns, it has an ID, it has the user name of the

13 accounts, it has a user ID, and then it has things like what

14 fees that account pays, various settings—and various settings

15 related to the account.

16   MR. ROOS: So since this is small to read, I'm going

17 to ask Mr. Bianco to zoom in on each part. So Mr. Bianco, why

18 don't we just zoom in on the area of ID, User Name, and User ID

19 columns. And just so we can see the headings, also.

20   Thank you.

21 Q.   So Mr. Wang, what do the ID, User Name, and User ID columns

22 refer to?

23 A.   So ID is a numeric ID associated with these accounts; User

24 Name is typically the email of the account; and then User ID

25 is—so accounts might—so users might have accounts and they

1   might have subaccounts, and the User ID ties accounts and

2   subaccounts together.

3   Q.   Okay.   Then a few columns over do you see where it

4   indicates, it says——it has the words Fee in two columns?

5   A.   Yes.

6   Q.   What does that refer to?

7   A.   So Maker Fee and Taker Fee are the fees that the account

8   pays for——for trades that it does.

9   Q.   Are these the transaction fees you testified about

10 yesterday for how FTX makes money?

11 A.   Yes.

12 Q.   Okay.   Do you see the next column, it says Liquidating?

13 A.   Yes.

14 Q.   What does that column refer to?

15 A.   That refers to whether or not the account is currently

16 being liquidated.

17 Q.   Another column over it says Borrow.   Do you see that?

18 A.   Yes.

19 Q.   What does that column refer to?

20 A.   It refers to the size of the account's line of credit.

21 Q.   Okay.   And we'll come back to that.

22   MR. ROOS: Can we scroll over a little bit now for the

23 witness.

24 Q.   Do you see Can Withdraw below Borrow?

25 A.   Yes.

1 Q. What does that column refer to?

2 A. It refers to whether or not the account is allowed to

3 withdraw part of its line of credit.

4 Q. And so on the Borrow line, the Line of Credit line, all

5 these numbers are 0 except for one of them. What does 0 mean?

6 A. That means that the account does not have a line of credit.

7 Q. And then the one has a 1. What does that refer to?

8 A. That means it has a line of credit of 1 dollar.

9   THE COURT: Of 1 dollar?

10   THE WITNESS: Yes.

11   THE COURT: Thank you.

12 Q. And then the Can below Borrow column, next to it has

13 nothing checked. What does that mean?

14 A. That means that these accounts are not allowed to withdraw

15 their line of credit.

16 Q. Okay. So the next column over says Allow Negative. What

17 does that refer to?

18 A. It refers to whether or not the account is allowed to have

19 a negative balance. So by—as—whether or not the account is

20 allowed to transfer or withdraw funds such that it would cause

21 it to have a negative balance.

22 Q. So let me just follow up on that. By negative balance,

23 what do you mean?

24 A. So a balance of less than 0.

25 Q. So the account—the account balance has a number that is a

1 negative number.

2 A.   Yes.

3 Q.   And so then what does going below 0 mean, exactly?

4 A.   So that——that means that the account would be——is

5 transferring/withdrawing more than it has.   So it would be

6 borrowing from the exchange at this point.

7 Q.   So none of these have "Allow Negative" checked.   What

8 happens if "Allow Negative" is checked?

9 A.   So it's——normally you can't withdraw more than what you

10 have in your account, but if "Allow Negative" is checked, that

11 means that you are allowed to withdraw more than what you have

12 in the account.

13 Q.   So this is all the back end, you said.   What does this

14 back-end database do for the front end of the website?

15 A.   So the data at the back end is used to populate what shows

16 up in the front end of the website.

17 Q.   So when we were looking at that page with the account

18 balances, is that information all stored in this back-end

19 database?

20 A.   Yes.

21   MR. ROOS: All right.   We can take this down.

22   And pursuant to Government Exhibit 2002, which is a

23 stipulation, the government offers Exhibit 1732.

24   THE COURT: Received.

25   (Government's Exhibit 1732 received in evidence)

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1   MR. ROOS: May we publish?

2   THE COURT: You may.

3   BY MR. ROOS:

4   Q.   At a very general level, Mr. Wang, what are we looking at?

5   A.   So this is a fills table in that database.

6   Q.   You said fills, F-I-L-L-S?

7   A.   Yes.

8   Q.   And in sort of basic terms, what is the fills table?

9   A.   So it contains records of all the trades that happened on

10   FTX.

11   Q.   So it's like a transactions table.

12   A.   Yes.

13   Q.   And how does this correspond to what's on the front end of

14   the website?

15   A.   So the—on the front end there's a page that displays all

16   your trading activity, and the data for that comes from this

17   table. And also the—and also the—your balances ultimately

18   come as a result of adding up the entries in this table,

19   amongst other things.

20   Q.   So let's just look at a few of the columns.

21   MR. ROOS: Can we start, Mr. Bianco, by zooming in on

22   the ID and Account ID columns.

23   Q.   And so, Mr. Wang, we see ID and Account ID. What do those

24   refer to?

25   A.   So ID is a unique identifier for the trades that happen, so

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1 each trade has a unique ID. And an account ID is which account

2 did the trade. So each account—each account has an ID, and in

3 this, in the fills table here, they're saying for each trade

4 that happened, which account did the trade.

5 Q. And then a little bit ways over, closer to the right side

6 of the screen, it says Side. Do you see that?

7 A. Yes.

8 Q. What does that refer to?

9 A. Refers to whether, this trade, whether the account is

10 buying or selling.

11 Q. And then there's a price. What is that?

12 A. That's the price that the trade happened at.

13 Q. And then the size, what does that refer to?

14 A. It's the size of the trade, so how much they bought or how

15 much they sold.

16 Q. And then in the FTX database that we're looking at, is

17 there a record of every purchase and sale of cryptocurrency on

18 the site?

19 A. Yes.

20 Q. Was Alameda a customer on FTX?

21 A. Yes.

22 Q. And—

23   THE COURT: I'm sorry. Before we get to that,

24 Mr. Wang, I would imagine that somewhere on each line here it

25 perhaps indicates what was bought and sold, yes?

1   THE WITNESS: Yes.

2   THE COURT: And where is that?

3   THE WITNESS: So that's in the Market ID column, which

4   identifies which market the trade happened in, and each

5   market——each market then, in the markets table, then has——has

6   what two things are traded on that market.

7   THE COURT: So for example, in the first line, the

8   entry under Market ID, 3104, that corresponds to a particular

9   type of asset that was bought or sold, yes?

10   THE WITNESS: Yes. Well, so it's——well, so it's——for

11   example——I don't remember which that exactly is. For example,

12   there's a Bitcoin with a USD market, that's one market, and

13   then there's, say, a Bitcoin with an Ethereum market, and

14   there's an Ethereum USD market, and those would be three

15   different markets.

16   THE COURT: Okay. And the Price column expresses the

17   price in what units?

18   THE WITNESS: So it depends on——it depends on which

19   market it is. So usually for a market——so each market has a

20   base currency and a quote currency, so for example, for a BTC

21   with USD, Bitcoin would be the base currency and USD would be

22   the quote currency, and that case, the size is expressed

23   in——would be expressed in Bitcoin, in the base currency.

24   THE COURT: Okay. Thank you.

25   Go ahead, Mr. Roos.

1   MR. ROOS: Thank you, your Honor.

2   BY MR. ROOS:

3   Q. Just to follow up to make sure we understand your question,

4   when you were saying BTC, what were you referring to?

5   A. Bitcoin.

6   Q. And what is USD?

7   A. US dollars.

8   Q. Okay. And so you were describing a scenario where it was a

9   Bitcoin-for-dollars trade.

10   A. Yes.

11   Q. All right. Now was Alameda a customer on FTX?

12   A. Yes.

13   Q. And what account ID did it have?

14   A. It had account ID 9.

15   Q. Do you see that on the screen here?

16   A. Yes.

17   Q. And what was the user name for Alameda's account?

18   A. Info@AlamedaResearch.com.

19   MR. ROOS: We can take this exhibit down.

20   Q. At the beginning of your testimony you said Alameda had

21   special advantages in the computer code. Can you describe what

22   those special privileges were, and then I want to go through

23   each of them.

24   A. Yes. So first, it had the—it had the "Allow Negative"

25   ability, which allowed it to transfer or withdraw funds beyond

1   what it actually had in its account and—and doing so would

2   have the account become—and doing so even when this account

3   had a negative balance, or even if that would cause the account

4   to have a negative balance. So that's one.

5   Two—two, it had a very large line of credit, which

6   allowed it to put on large positions and large orders even when

7   it didn't have—did not have the collateral in its account.

8   And three, it had the ability to place orders slightly

9   faster than other accounts.

10   And four, when the customers deposit US dollars

11   into—into FTX, those dollars were—they were directed

12   to—first deposited into Alameda bank account.

13   Q. I want to focus on the first two in particular, the ability

14   to go negative and make unlimited withdrawals and the large

15   line of credit, okay? I'm going to ask you a few general

16   questions about both of them, okay?

17   A. Yes.

18   Q. All right. So were those special advantages disclosed to

19   the general public?

20   A. No.

21   Q. What about to FTX's investors, were those special

22   advantages disclosed to them?

23   A. No.

24   Q. Were those special advantages disclosed to FTX's customers?

25   A. No.

1   Q. As a result of those special advantages, was Alameda

2   treated the same or differently as other FTX customers on the

3   exchange?

4   A. Differently.

5   Q. What did Alameda do as a result of having the ability to

6   have a negative account balance and make unlimited withdrawals?

7   A. It withdrew more funds than it had on the exchange.

8   Q. And approximately how much?

9   A. At the time that FTX declared bankruptcy, Alameda had—was

10 borrowing $8 billion from the exchange.

11 Q. And when you say it was withdrawing $8 billion from the

12 exchange, do you mean in cryptocurrency or fiat or both?

13 A. A combination.

14 Q. Okay. Where did the money come from for Alameda Research

15 to—or what money was Alameda withdrawing when it withdrew

16 money in excess or below its balance?

17 A. It was money from customers.

18 Q. All right. I'm not sure my question was clear, so I'll ask

19 it again.

20   When Alameda withdrew money below its 0 balance line,

21 so when it withdrew to a balance that was negative, whose money

22 did it withdraw?

23 A. Money belonging to other customers of FTX.

24 Q. All right. So let's dig in a little bit on that first

25 special advantage.

1   At a general level, and taking a technical sort of

2   perspective, how did Alameda Research have that special

3   privilege, the ability to go negative?

4   A.   So there's the—there's—there's computer code that

5   specifies what—that creates a "Allow Negative" column in the

6   database and specifies what happens when the account has that

7   feature; and second, that feature was then turned on for

8   Alameda.

9   Q.   So you said there was a column in the database for "Allow

10   Negative"?

11   A.   Yes.

12   Q.   Did we just look at that column?

13   A.   Yes.

14   MR. ROOS: Let's just actually put up again Government

15   Exhibit 1731.

16   Q.   And where is the column on Government Exhibit 1731?

17   A.   Here it's the second column from the right.

18   Q.   And so do any of these accounts listed on the screen here

19   have "Allow Negative"?

20   A.   No.

21   MR. ROOS: Okay.   We can take that down.

22   Q.   How did this special "Allow Negative" privilege come about?

23   A.   Sam had asked Nishad and I to add the ability to—to pay

24   for various FTX-related expenses from Alameda's accounts and

25   from a few other bookkeeping accounts on FTX.

1   Q.   And when was that?

2   A.   This was in July 2019.

3   Q.   How long after starting the exchange was that?

4   A.   This was a few months after starting the exchange.

5   Q.   Was Alameda given this special advantage around when it was

6   introduced?

7   A.   Yes.

8   Q.   What, if anything, did the defendant say about why Alameda

9   needed the ability to have a negative account balance?

10 A.   So we wanted to——so Sam said that he wanted to pay for

11 some——pay for certain FTT-related expenses from Alameda's

12 accounts.

13 Q.   You just said FTT-related expenses. What's FTT?

14 A.   It's cryptocurrency that was——that we created when FTX was

15 founded, sort of to act as a sort of equity in FTX.

16 Q.   So it's cryptocurrency created by FTX.

17 A.   Yes.

18 Q.   Okay. We'll come back to that.

19   Over time, was the use of this ability to have an

20 account balance go negative used only by Alameda for that

21 purpose——that is, the FTT expenses?

22 A.   No.

23 Q.   So was it used for other purposes?

24 A.   Yes.

25 Q.   What else was it used for?

1 A. It was also used by Alameda for trading.

2 Q. What do you mean by that?

3 A. To withdraw from FTX and send it other exchanges to use for

4 their trading activities.

5 Q. And so did this special advantage——that is, the ability to

6 have a negative account balance——allow Alameda to make

7 unlimited withdrawals off of the FTX exchange?

8 A. Yes.

9 Q. As a result of that special advantage, could Alameda make

10 unlimited withdrawals from the exchange even when its account

11 balance was below zero?

12 A. Yes.

13 Q. And so if Alameda's account balance was zero or negative,

14 for example, in Bitcoin, and it used its special advantage to

15 withdraw Bitcoin, whose Bitcoin would it be withdrawing?

16 A. From customers——it would be withdrawing customers' Bitcoin.

17 Q. So when Alameda withdrew money from the exchange while it

18 had a negative balance overall, whose money was it withdrawing?

19   MR. EVERDELL: Objection. Asked and answered.

20   MR. ROOS: It's a different question. I asked first

21 Bitcoin-specific and then the general question.

22   THE COURT: Overruled.

23 Q. I'll ask you again: When Alameda withdrew money from the

24 exchange while it had a negative balance, whose money was it

25 withdrawing?

1   A.   So I—either FTX's own money or money from customers—was

2   withdrawing money from customers.

3   Q.   When you said FTX's own money, what are you referring to?

4   A.   The money FTX earned from trading fees from customers.

5   Q.   And you said Alameda withdrew or had a negative balance of

6   $8 billion; is that right?

7   A.   Yes.

8   Q.   Was that more than the amount of money that FTX had in

9   revenue?

10 A.   Yes.

11 Q.   So then whose money did that $8 billion come from?

12 A.   From customers.

13 Q.   Let's talk more specifically about the code portion of the

14 special advantage.

15   MR. ROOS: Pursuant to a stipulation, 2002, which is

16 in evidence, the government offers Exhibit 617.

17   THE COURT: Received.

18   (Government's Exhibit 617 received in evidence)

19   MR. ROOS: May we publish it?

20   THE COURT: Yes.

21 BY MR. ROOS:

22 Q.   Mr. Wang, what are we looking at here?

23 A.   So this is a screenshot of a record of a particular change

24 that was made to FTX's code.

25 Q.   So this is the first piece of the computer code that we're

1   looking at. So I want to ask you a few questions just to sort

2   of help orient us in how we read this, okay?

3   A. Yes.

4   Q. So tell us a little bit about the language here. What does

5   it mean and how does it work?

6   A. So the Commit refers to a particular change that was made

7   to FTX's code base.

8   Q. And that's what you see up on the top here?

9   A. Yes.

10 Q. Okay.

11 A. And then there is a name for the—there's a title for the

12 change and then there's a description of the change.

13 Q. Where is the title for the change on here?

14 A. So right below Commit, where it says OTC Trades and

15 Transfers Through Special Accounts.

16 Q. Okay. And then lower, there's some writing in a green box.

17 What is that a reference to?

18 A. So the—the green refers to lines that were added to the

19 code base as a result of this change.

20   MR. ROOS: And then Mr. Bianco, could you just scroll

21 down a little bit to the red coloring.

22 Q. Do you see some red coloring, Mr. Wang? What are the red

23 portions?

24 A. The red portions with the minus sign in front are lines

25 that were removed from the code base as a result of the change.

1   Q.   And what about the white parts?

2   A.   Those were lines that were unchanged, that were not

3   changed.

4   MR. ROOS: And then let's scroll back up a little bit.

5   Q.   So some of these things, you know, just looking at, for

6   instance, line 13, revision equals and a number, those don't

7   look like sentences to me.   What is this?

8   A.   So this——so this particular file is for a change, a change

9   to the——the columns in the database, and that particular

10   revision number is a previous version of the data schema for

11   the database.

12   Q.   And what sort of language is the whole code written in?

13   A.   It's written in Python.

14   Q.   Okay.   Now let's focus in on this particular portion of the

15   code that's in lines 1 through 31, so the green box here.   And

16   what does this show?   What is this addition?

17   A.   So this is adding two columns to the accounts table in the

18   FTX database.   It's adding the "Allow Negative" column and it's

19   adding the "Can Trade Futures" column.

20   Q.   So just focusing on the "Allow Negative" addition, does

21   this mean that any particular account can have a negative

22   balance?

23   A.   No.   Just adding the ability for an account to be marked as

24   being——as having the "Allow Negative" flag, but it doesn't have

25   to be added to any particular account.

1 Q. So earlier you mentioned it as a column. What column are

2 you talking about?

3 A. The "Allow Negative" column from that earlier screenshot.

4 Q. So the one where it listed all the customer accounts and

5 then it had a column Allow_Negative?

6 A. Yes.

7 Q. So this just added that column.

8 A. Yes.

9 Q. All right. Who added this particular revision to the code?

10 A. Nishad did.

11 Q. You're referring to Nishad Singh?

12 A. Yes.

13 Q. What was his involvement in coding?

14 A. He was another developer at the—he was another developer

15 at the company, and eventually he—he was the engineering

16 manager.

17 Q. When was this particular coding addition added?

18 A. This was July 31, 2019.

19 Q. And this adds the column, but to give an account this

20 "Allow Negative" feature, what needs to happen?

21 A. Someone needs to go into the database and actually enable

22 it for a particular account.

23 Q. Did you talk to the defendant about adding the "Allow

24 Negative" code feature?

25 A. Yes.

1 Q. What do you recall about that conversation?

2 A. He——Sam asked for some page on the website where employees

3 of the company could use to pay for various expenses related to

4 FTX, and part of that page is specifying which accounts those

5 expenses should be paid out of, and he wanted those expenses,

6 the expense payments to happen even if those accounts did not

7 necessarily at the time have the——have the balances to pay for

8 those expenses since the accounts——since most of those were

9 used for bookkeeping purposes.

10 Q. Okay. Now did Alameda Research's account on ftx.com ever

11 have this particular "Allow Negative" feature turned on in that

12 column?

13 A. Yes.

14 Q. When was that?

15 A. It happened on the same day.

16 Q. The same day as this code was added.

17 A. Yes.

18   MR. ROOS: So why don't we take down this exhibit.

19   And the government offers——pursuant to stipulation

20 marked as Exhibit 2002, the government offers Exhibit 607.

21   THE COURT: Received.

22   (Government's Exhibit 607 received in evidence)

23   MR. ROOS: May we publish it?

24   THE COURT: You may.

25   MR. ROOS: Mr. Bianco, maybe we could just zoom in a

1   little bit, so we can focus in on the top of this.

2   Thank you.

3   BY MR. ROOS:

4   Q.   So, Mr. Wang, what are we looking at here?

5   A.   So this is a screenshot from GitHub, which is where the FTX

6   code base was stored, and it allowed for commenting on various

7   changes, and this is a comment on a particular change.

8   Q.   So it's a comment on a code change?

9   A.   Yes.

10   Q.   Okay. And I want to focus on this particular comment by

11   Nishad Singh here.

12   MR. ROOS: So maybe, Mr. Bianco, we could just zoom in

13   on "Nishad Singh commented" and the white box below it.

14   Q.   Okay. Do you see that?

15   A.   Yes.

16   Q.   So let's just start with sort of the information at the top

17   of it. NishadSingh1, is that a user name?

18   A.   Yes.

19   Q.   Whose user name?

20   A.   Nishad's user name.

21   Q.   And was Nishad the same person who made the code change?

22   A.   Yes.

23   Q.   Okay. Were you involved at all in that code change?

24   A.   I looked at the code change when it happened.

25   Q.   And what about the defendant?

1 A. He did not look at it, but he was——we told him——he asked us

2 to do it and then we told him we did it.

3 Q. Now this comment says, "And we set Allow Negative equals

4 true for," and it lists a bunch of accounts. Let me just stop

5 there. When it says "we set Allow Negative equals true," what

6 does that mean?

7 A. So it means that prior to or as part of making the change,

8 he went into the database and set the "Allow Negative" column

9 to true for a particular——a particular set of accounts.

10 Q. So for this set of accounts, I want to ask you about a few

11 of them. It lists I think——let's see, one, two, three, four,

12 five——six accounts; is that right?

13 A. Yes.

14 Q. So do you see the second account, info@Alameda(9)?

15 A. Yes.

16 Q. What is that a reference to?

17 A. That's the main AlamedaResearch.com trading account.

18 Q. That's Alameda's main account.

19 A. Yes.

20 Q. And what is the next account there?

21 A. The info@Alameda off-market FTT subaccounts is the account

22 that Alameda was using to host some of its FTTs.

23 Q. These numbers next to the main Alameda account and its

24 subaccount, what are those?

25 A. Those are the account IDs of those accounts and

1 subaccounts.

2 Q. The next one here is cottonwoodtrading@gmail off-market FTT

3 subaccount, and has a number. What's that account?

4 A. That's a—that's another Alameda account.

5 Q. Okay. So then there are two accounts that I didn't ask you

6 about. Are those customer accounts?

7 A. No.

8 Q. Okay. What kind of accounts are they?

9 A. They're bookkeeping accounts.

10 Q. Were there any other customer accounts besides Alameda's

11 accounts that were given this "Allow Negative" feature at the

12 time it was created?

13 A. No.

14 Q. From July 31, 2019, which is the date here, until the end

15 of FTX, did Alameda's main account and certain subaccounts have

16 that "Allow Negative" feature turned on?

17 A. Yes.

18 Q. Was it ever turned off?

19 A. Not for those accounts.

20   MR. ROOS: We can take this exhibit down.

21   Pursuant to the stipulation that's in evidence as

22 Government Exhibit 2002, the government offers Exhibit 643.

23   THE COURT: Received.

24   (Government's Exhibit 643 received in evidence)

25   MR. ROOS: Thank you, your Honor. May we publish it?

1   THE COURT: Yes.

2   BY MR. ROOS:

3   Q.   Mr. Wang, do you recognize this?

4   A.   Yes.

5   Q.   What is it?

6   A.   It's a database query for Alameda's accounts and the

7   results from that query.

8   Q.   Is this database listing the same setup as the other

9   listing of accounts we looked at?

10   A.   Yes.

11   Q.   What's the difference here?

12   A.   Here it's filtering for accounts data in the——data——the

13   accounts or subaccounts in Alameda's accounts.

14   Q.   Now the screenshot of the database here shows 24 accounts

15   listed. Were there more than this, if you were to scroll down?

16   A.   Yes.

17   Q.   Is the main account at the top?

18   A.   Yes.

19   MR. ROOS: Okay. And Mr. Bianco, could you highlight

20   the second to last or zoom in on the second to——I'm sorry, not

21   the second to last——the "Allow Negative" column.

22   Q.   And so for Alameda, was the "Allow Negative" feature turned

23   on for any accounts?

24   A.   Yes.

25   Q.   And that's right here in the database?

1   A.   Yes.

2   Q.   So in practical terms what did setting "Allow Negative" to

3   checkmark or true mean for those accounts?

4   A.   It means that those accounts did not have a limit on how

5   much they could withdraw or transfer.

6   Q.   At any time were any other customers of FTX given the

7   ability to have a negative balance?

8   A.   No.

9   Q.   Were you aware that——withdrawn.

10   Did you have any conversations with the defendant

11   about adding this to these Alameda accounts?

12   A.   Yes.

13   Q.   And what did you discuss?

14   A.   So we discussed——so, I mean, Sam told me to——a few——on a

15   few instances. Initially it was for Alameda Research main

16   account was one for paying FTT-related expenses and was——

17   (The reporter interrupted for clarification)

18   A.   So one was for paying various expenses, and two was for

19   doing conversion between US dollars and USD to stablecoin,

20   which involved——which——which involved tokens from the exchange,

21   sending them to the bank and converting that to dollars into

22   the bank account, or reverse for the other direction.

23   So that was initially. And then later on, for other

24   subaccounts for part one, it was——it was to be backed up.

25   Q.   And did you have some further conversations about the use

1   of this "Allow Negative"?

2   A.   Yes.

3   Q.   We'll come back to those. Before we do that, I want to ask

4   you about what sort of special abilities having this "Allow

5   Negative" box gave Alameda, okay?

6   A.   Yup.

7   MR. ROOS: All right. Why don't we take this down.

8   And Mr. Bianco, can you please publish Government

9   Exhibit 617, which is in evidence.

10 Q.   And Mr. Wang, this is the piece of the code we looked at

11 earlier that added the "Allow Negative" column, right?

12 A.   Yes.

13 Q.   Okay. So why don't we scroll down lower in this code about

14 halfway to the gray heading that says "\Wallet\Balances." Do

15 you see that?

16 A.   Yes.

17 Q.   So Mr. Wang, what part of the code does balances.py relate

18 to?

19 A.   So this is part of the code for controlling whether or not

20 a transfer or withdrawal from the exchange is allowed. So when

21 the user requests to transfer funds to another account or when

22 the user requests to withdraw some funds from the exchange,

23 this code gets run to—as part of the process for considering

24 whether or not that request is allowed to get processed.

25 Q.   Let's just break this down in simple terms.

1   Actually, let me use an example. So let's start with

2 a normal customer, regular customer, and if that account——and

3 the normal customer account without "Allow Negative." What

4 happens whenever a person wants to make a withdrawal?

5 A. So after——on the front end, after they——after they go

6 through, after they click the Withdraw button and send the

7 request to the back end, the back end, as part of the process,

8 seeing the request, runs this code, which checks whether or not

9 the account has enough balances in it to allow the withdrawal

10 to go through.

11 Q. So normally you click the button and the code checks to see

12 if you have enough money.

13 A. Yes.

14 Q. Okay. Now do you see the part of the code that's in green

15 at line 35?

16 A. Yes.

17 Q. And what does the green mean?

18 A. It means that as part of——it was added as——to the code as

19 part of this change.

20 Q. Okay. So this addition right here at line 35, can you

21 explain what that addition does.

22 A. So it's saying that before checking whether or not the

23 accounts would become negative as a result of the withdrawal,

24 first check whether or not the account has the "Allow Negative"

25 flag checked, and if it——and only do the balance check if the

 1 account does not have the "Allow Negative" flag check.

 2 Q. So in practical terms, if Alameda had the "Allow Negative"

 3 flag checked, would it check the balances?

 4 A. No.

 5 Q. And so if the account had a negative balance, could it

 6 still withdraw?

 7 A. Yes.

 8 Q. Would there be any limit on the amount of withdrawal?

 9 A. No.

10   MR. ROOS: You can take this down.

11   Pursuant to a stipulation already in evidence, 2002,

12 the government offers Exhibit 611.

13   THE COURT: Received.

14   (Government's Exhibit 611 received in evidence)

15   MR. ROOS: May we publish?

16   THE COURT: Yes.

17   MR. ROOS: And Mr. Bianco, if we could zoom in from

18 the word Commit down through the first section.

19 BY MR. ROOS:

20 Q. Mr. Wang, this is another piece of code?

21 A. Yes.

22 Q. What does it relate to?

23 A. This is part of the code for determining whether or not an

24 account should be liquidated or not.

25 Q. Okay. So before I ask you what this does, let me ask you:

1   At a high level, what is liquidating account?

2   A.   So when a——when an account opens a position and as part of

3   that position they need to borrow funds, the——if the market

4   moves against that position, their account must lose value, and

5   at some point their account might lose so much value that it's

6   in danger of having——of going negative, of having——it's in

7   danger of having nothing, of losing so much value that it would

8   have nothing in it, would start having negative balances, and

9   before that happens, FTX liquidates the account so it——it

10   closes the position to prevent the account from becoming

11   negative.

12   Q.   Give me the simplest example you can think of of this.

13   A.   So let's say someone deposits a hundred dollars into their

14   FTX account and then uses it to open a $1,000 Bitcoin position.

15   And let's say they bought——they're going long, so they bought

16   the Bitcoin position. And then let's say the price of Bitcoin

17   starts falling, and, you know, as the price of Bitcoin falls,

18   their account starts losing——the account starts becoming worth

19   less and less. So let's say if they have a $1,000 Bitcoin

20   position and Bitcoin goes down 1 percent, then now their

21   account only has $90 in it, and if Bitcoin goes down another

22   percent, then now their account only has $80 in it, and if this

23   keeps happening, at some point their account——at some point the

24   $100 they deposited into their account is all gone and now the

25   account might become negative as a result of the price of

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1   Bitcoin falling.

2   Q.   Okay. So just to break that down, first of all, you're

3   talking about someone buying a future?

4   A.   Yes.

5   Q.   So either shorting or going long on Bitcoin.

6   A.   Yes.

7   Q.   And you're describing a scenario where somebody has gone

8   long on Bitcoins, they've made a bet on Bitcoin; is that right?

9   A.   Yes.

10   Q.   And what happens then as the price of Bitcoin starts

11   dropping on that bet, so it goes the opposite way?

12   A.   It means that their account starts losing value.

13   Q.   How does their account start losing value in that

14   situation?

15   A.   Well, because when—because they only—they only deposited

16   a hundred dollars but they're buying a $1,000 Bitcoin position,

17   so—and because the Bitcoin future means that it's only worth

18   how much—however much Bitcoin is worth, and so as the price of

19   Bitcoin falls, their position also loses value.

20   Q.   And so you described a situation where the price of Bitcoin

21   keeps falling so the account keeps losing value. What then

22   does the liquidation process do?

23   A.   So the liquidation process kicks in before the account

24   loses all of its value, and at that—ideally, before it loses

25   all its value. And the liquidation process sells off their

1 position and the collateral to a market maker; either to a

2 market maker or just sells it on the market.

3 Q. So basically this is the process of closing the account

4 before it goes negative.

5 A. Yes.

6 Q. What was the purpose of liquidation at FTX?

7 A. So it prevents the account from becoming negative, because

8 if the account went negative, then that would mean that FTX

9 would be on the hook for the money, so it was to protect FTX

10 and the other customers from losing money.

11 Q. How did FTX know when to liquidate an account?

12 A. So this──there's code for detecting how large the──how

13 large account's positions are and how much collateral they had,

14 and when that──when the amount that it──of value it has in the

15 account is too small relative to how much the account's

16 positions are, at that point it──it──it decides that the

17 account is too risky and that it needs to liquidate the

18 account.

19 Q. Let me ask you just a few follow-up questions on that

20 liquidation detection.

21   So are there people who are out there just looking for

22 accounts to liquidate?

23 A. No.

24 Q. How did this work?

25 A. So it's an automated process, so there's computer codes

1   running all the time that looks through every account at FTX

2   and checks whether or not it's—the account is too risky or

3   not.

4   Q. So how long does it take to liquidate an account?

5   A. So it takes about 30 seconds to detect that an account

6   needs to be liquidated, and then how long it takes to liquidate

7   the actual account depends on how large the actual account is.

8   So for a very small account, it just happens, it could happen

9   instantly, and for larger accounts, it might take a few seconds

10 or a few minutes.

11   (Continued on next page)

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1   Q. Is it possible that an account could just have a large

2   negative balance sitting out there without being liquidated?

3   A. Not generally, not for normal customers.

4   Q. Could it ever happen for a normal customer, setting aside

5   Alameda?

6   A. No. Unless -- not for any long period of time.

7   Q. You were just alluding to it. When or what does the

8   computer code say about when to liquidate a normal customer?

9   A. It compares how much value the account has against how

10 large its positions are. So it takes the ratio of the size of

11 its positions to the size of its collateral, and if that ratio

12 it falls below a certain threshold, the account is put into

13 liquidation mode.

14 Q. We have been talking about liquidation of a normal

15 customer.

16   MR. EVERDELL: Objection, your Honor. Use of the word

17 norm.

18   THE COURT: I didn't hear what Mr. Everdell said.

19   MR. EVERDELL: My objection is to use of the word

20 normal customer.

21   THE COURT: Overruled.

22 Q. I want to talk now about accounts that had allow negative.

23 OK?

24 A. OK.

25 Q. What does this code addition do for accounts that have that

1 allow-negative term on it?

2 A.   For accounts that have allow negative turned on, it's

3 saying that regardless of what this computation would normally

4 result in, ignore that result and this market has not been

5 liquidated.

6 Q.   For which customer accounts had the allow negative turned

7 on and therefore would not be liquidated?

8 A.   For customers, it's Alameda's accounts.

9 Q.   Did you speak to the defendant about not having Alameda

10 Research's account be liquidated?

11 A.   Yes.

12 Q.   What did he say?

13 A.   He told me a few items to make sure that Alameda's account

14 is never liquidated on FTX.

15 Q.   Based on your conversation, was the defendant aware that

16 Alameda had this privilege?

17 A.   Yes.

18   MR. EVERDELL: Objection.

19   THE COURT: Overruled.

20 A.   Yes.

21   THE COURT: It's quite clear from the previous answer.

22 Q.   In terms of that conversation or conversations you had with

23 them, did this code addition have anything to do with this?

24 A.   Yes.

25 Q.   How so?

1 A. This code addition was the result of one of those

2 conversations.

3 Q. Just to be clear, did the topic of Alameda not being

4 liquidated come up once or more than once with the defendant?

5 A. More than once.

6 Q. How, if at all, would liquidation have hurt Alameda

7 Research?

8 A. It would cause them to lose money because liquidation might

9 not happen at a good price.

10 Q. Put it all together for us. When Alameda Research was

11 given the allow-negative feature in the code, what did it mean

12 for this account?

13 A. It means that regardless of what the accounts balance is or

14 positions are, it can never be liquidated.

15 Q. Is that true, regardless of how much money Alameda

16 withdrew?

17 A. Yes.

18 Q. And is that true, regardless of how negative Alameda went?

19 A. Yes.

20 Q. Under any circumstances then, would Alameda's account be

21 closed?

22 A. No.

23   MR. EVERDELL: Objection.

24   THE COURT: Sustained as to form.

25 Q. In what, if any, circumstances would Alameda's account be

1 closed?

2 A. Someone would need to manually do something to close it.

3   MR. ROOS: We can take this down.

4 Q. Did there come a time in late 2019 when you heard the

5 defendant talk about Alameda Research having a negative

6 balance?

7 A. Yes.

8 Q. What do you recall about what you heard?

9 A. So at the time FTX and Alameda were in the same office, and

10 someone -- a trader from Alameda came up to Sam's desk and

11 asked him whether it's fine for Alameda to continue withdrawing

12 from FTX, and Sam said that as long as how much Alameda has

13 withdrawn from FTX is less than what FTX total trading revenue

14 was at the time, then it's fine for Alameda to keep withdrawing

15 from FTX.

16 Q. Let me ask you a few follow-up questions on that.

17   First, what was the defendant's role with Alameda, if

18 any, at the time?

19 A. He was the CEO of Alameda.

20 Q. You said he said that Alameda could keep withdrawing as

21 long as they didn't go more negative than FTX's revenue?

22   MR. EVERDELL: Objection.

23 Q. How much was the revenue?

24 A. Around 50 to a hundred million dollars at the time.

25 Q. Putting that together, how much did the defendant say, in

1   other words, that Alameda could withdraw?

2   A.   That it could withdraw until its account became negative by

3   more than 50 to a hundred million dollars.

4   THE COURT: Did you say million or billion?

5   THE WITNESS: Million with an M.

6   THE COURT: Thank you.

7   Q.   What would it have meant if Alameda Research's account had

8   a negative balance that was more negative than 50 or a hundred

9   million?

10 A.   That would mean that it's taking customers' deposits.

11 Q.   Let's go back to this conversation.   How do you know this

12 conversation happened?

13 A.   I was sitting near Sam's desk when it happened.

14 Q.   Did it remain the case that Alameda's negative balance did

15 not exceed FTX's revenue?

16 A.   No.

17 Q.   How do you know that?

18 A.   So at the very end of 2019 or early 2020, I did a database

19 query to check what Alameda's balances were at the time.   When

20 I checked, it was negative by more than what FTX's trading

21 revenue was at the time.

22 Q.   You said you did a database query.   Was that the database

23 we were just looking at?

24 A.   Yes.

25 Q.   Were you able to see Alameda's balances in there?

1   A.   Yes.

2   Q.   What was the implication of Alameda having a negative

3   balance in excess of FTX's revenue?

4   A.   It means that Alameda was taking customers' money.

5   Q.   What was your reaction to this?

6   A.   I was surprised because it didn't line up with what I heard

7   Sam say earlier, so I went to Sam to talk to him about this.

8   Q.   What did the defendant say?

9   A.   He asked me, when I was doing this calculation, if I was

10 including the value of Alameda's FTT, which was held in a

11 separate account. He asked me if I was also including that

12 FTT.

13 Q.   To break this down a little bit, you said Alameda's account

14 was negative in excess of revenue. What was FTX's revenue at

15 the time?

16 A.   It was around $150 million.

17 Q.   What was Alameda's negative balance at the time?

18 A.   It was more than that. It was more than that. I think it

19 was around 200 million.

20 Q.   When you told the defendant that Alameda had a negative

21 balance, what did he tell you to include in the balance

22 calculation?

23 A.   He asked me to include the value of all of Alameda's

24 accounts on FTX and include the value of the FTT that was in

25 those accounts.

1   Q.   You said FTT was a cryptocurrency?

2   A.   Yes.

3   Q.   Where did FTT come from?

4   A.   It was created by FTX when FTX was founded.

5   Q.   Who specifically created it?

6   A.   Sam and I.

7   Q.   Who owned most of the FTT?

8   A.   Alameda did.

9   Q.   Around this time, 2019 or 2020, how much was FTT worth?

10   A.   It was worth a few dollars.

11   Q.   You said Alameda owned most of this cryptocurrency that you

12   created. What would have happened if you sold it?

13   A.   If we sold it all at once, it would cause the price of FTT

14   to drop by large amounts.

15   Q.   Why is that?

16   A.   Because there is not enough people who would want to buy

17   all of the FTT that is being sold all at once at the price it

18   was currently trading at, so it would cause the price to go

19   down until there was enough people who want to buy it.

20   Q.   You said earlier this was sort of like FTX's stock. Using

21   the analogy of the stock, can you explain how the price would

22   drop?

23   A.   So if there is not enough people who want to buy a stock at

24   a particular price, then if a company issues a bunch of stock

25   all at once and tries to sell it and it is not the people who

1   want to buy the stock at the price it's trading at, it would

2   cause the price of the stock to go down.

3   Q. Back to the conversation you had with the defendant, he

4   said include the FTT?

5   A. Yes.

6   Q. What, if any, problems were there with including all the

7   FTT in that balance calculation?

8   A. There were two problems. One is that if the FTT was all

9   sold to cover the amount of -- that Alameda was withdrawing, it

10 would cause the price of FTT to fall by a large amount and it

11 might not be enough to cover how much Alameda was withdrawing.

12   And, two, the other problem with that, Alameda was

13 withdrawing U.S. dollars and other cryptocurrency and not FTT.

14 Q. Where were you when you had this conversation about

15 Alameda's negative balance with the defendant?

16 A. In Hong Kong, in the FTX and Alameda office.

17   MR. ROOS: I will show the witness what's been marked

18 as Government Exhibit 1475.

19 Q. Mr. Wang, what is this.

20 A. It's a picture of Sam at his desk.

21 Q. Where?

22 A. In Hong Kong.

23   MR. ROOS: Government offers 1475.

24   MR. EVERDELL: No objection.

25   THE COURT: Received.

1   (Government Exhibit 1475 received in evidence)

2   MR. ROOS: May we publish it?

3   THE COURT: Yes.

4   Q. Mr. Wang, was this where the defendant was when you talked

5   to him about Alameda's negative balance?

6   A. Yes.

7   Q. At the time did you pursue the issue any further with the

8   defendant?

9   A. No.

10 Q. If his explanation didn't make total sense to you, why

11 didn't you pursue it further?

12 A. Well, I wasn't sure if it was -- which interpretation was

13 correct, and I trusted his judgment.

14   MR. ROOS: We can take the picture down.

15 Q. Besides the two conversations you have described to us, did

16 the fact that Alameda had allow negative turned on come up

17 other times with the defendant?

18 A. Yes.

19 Q. Only in 2019 and 2020 or at other times?

20 A. Also later.

21 Q. Besides the two conversations you just mentioned to us, did

22 the fact that Alameda had a negative balance come up on other

23 occasions with the defendant?

24 A. Yes.

25 Q. How many times?

1   A.   A few times.

2   Q.   Now, did there come a time when Alameda's account balance

3   on FTX was so negative that it remained negative even with the

4   FTT included?

5   A.   Yes.

6   Q.   Did you talk to the defendant about that?

7   A.   Yes.

8   Q.   Was there ever a time when Alameda's account balance in FTX

9   was so negative that even counting FTT in FTX's revenue, it was

10   still negative?

11   A.   Yes.

12   Q.   Did you talk to the defendant about that?

13   A.   Yes.

14   Q.   In that situation, when Alameda's balances were so

15   negative, they were more negative than revenue and FTT, where

16   did that money come from?

17   A.   From customers.

18   Q.   Did you believe that FTX or Alameda was allowed to use or

19   spend customer money?

20   A.   No.

21   Q.   Why not?

22   A.   Because the money belonged to customers and the customers

23   did not give us permission to use them for other things.

24   Q.   We will come back to this.

25   But I want to focus on the second special privilege

1 you mentioned, the line of credit. OK?

2 A. Yes.

3 Q. Let's talk about a customer that's not Alameda, general

4 customers. OK?

5 A. Yup.

6 Q. For a customer like that, if the customer wants to borrow

7 money on an FTX, what does he or she need to do?

8 A. They need to first deposit collateral onto FTX.

9 Q. How do they borrow money?

10 A. Usually, from the spot-margin system.

11 Q. Can you explain what the spot-margin system is.

12 A. It's a system where people can either lend out their funds

13 and specify some interest rate and then they can earn some

14 interest rate while lending off the funds, and other customers

15 can then borrow those funds to use for trading either by short

16 selling or by withdrawing.

17 Q. Did all the customers do spot-margin lending and borrowing?

18 A. No.

19 Q. How did a customer do spot-margin lending or borrowing?

20 A. They need to first enable it, a setting in their accounts.

21 Q. What do you mean by enable a setting?

22 A. There is a settings page where there is a button that they

23 can click to enable spot-margin trading, and then to access

24 another fund there is another page where you specify how much

25 funds you want to lend out and at what interest rates.

1   Q. You have to opt in?

2   A. Yes.

3   MR. ROOS: Can we show the witness what's been marked

4   as Government Exhibit 596.

5   Q. Do you recognize this?

6   A. Yes.

7   Q. What is it?

8   A. It's a screenshot of the margin settings page on FTX.

9   MR. ROOS: The government offers 596.

10   MR. EVERDELL: No objection.

11   THE COURT: Received.

12   (Government Exhibit 596 received in evidence)

13   MR. ROOS: May we publish it?

14   THE COURT: Yes.

15   Q. Mr. Wang, now that the jury can see this I am going to ask

16   you a few overview questions about it. Where did this page

17   exist on the website?

18   A. It's in the settings page.

19   Q. Settings for what?

20   A. The margin settings page for the accounts on FTX.

21   Q. Do you see here on the screen where it says the word spot

22   margin?

23   A. Yes.

24   Q. Then below it it says spot-margin trading is currently

25   disabled for your account?

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1 A. Yes.

2 Q. What does that mean?

3 A. It means that sport margin is currently not enabled for the

4 account.

5 Q. What does the customer need to do in order to do spot

6 margin?

7 A. They need to click the enable spot margin and trading

8 button.

9 Q. If they don't put enable spot margin trading, can their

10 funds be borrowed or lent?

11 A. No.

12 Q. Why not?

13 A. Because they are not giving permission to do so.

14 Q. Now, do you see below it where it says margin and leverage?

15 A. Yes.

16 Q. What do each of those little parts refer to?

17 A. Leverage is specifying what maximum margin they should

18 allow themselves to use on the platform. So, for example, 10X

19 leverage would mean that if they deposit one dollar, they can

20 open a 10-dollar position either via -- either via buying or

21 selling a future or by short selling a spot token. And then

22 collateral is specifying the set of tokens on FTX that can be

23 used as collateral.

24 Q. If someone wants to take a margin loan or give a margin

25 loan, what do they need to do on this page?

1   A.   They need to click the enable spot-margin trading button.

2   Q.   Do customers who want to take a margin loan, can they do

3   that without clicking spot margin enabled?

4   A.   No.

5   Q.   In order to take a margin loan, does a customer need to

6   have collateral?

7   A.   Yes.

8   Q.   What is collateral?

9   A.   So it's funds that you deposit into your account which have

10   some value that you can then use to open positions or borrow

11   funds. If your account starts losings value, that gets taken

12   out from your collateral.

13   Q.   How much collateral does a customer need to deposit to take

14   a margin loan? Maybe we can just use the example of Bitcoin.

15   A.   If they are not withdrawing the Bitcoin, if they are only

16   selling the Bitcoin short, the platform then to say sell $10 of

17   Bitcoin, then you first have to deposit one dollar of

18   collateral.

19   Q.   To take a margin loan, does that collateral need to be on

20   FTX?

21   A.   Yes.

22   Q.   If I have like a billion dollars in a bank account

23   somewhere, can I count that as collateral?

24   A.   No.

25   Q.   Why not?

1 A. One, because FTX system doesn't know about what money you

2 have that's not on FTX and, two, because in the event that your

3 account starts losing value or your account needs to be

4 liquidated, there is no way for the FTX system to get at the

5 money that's not sitting on FTX.

6 Q. Why was the code designed that way?

7 A. Because we wanted liquidations to happen automatically.

8 So, as a result, we -- there is no way for it to take into

9 account -- there is no way for it to take into account assets

10 that aren't actually on the platform itself.

11 Q. When a customer borrows through the spot-margin program,

12 who does he or she borrow from?

13 A. From other customers who have agreed to lend out their

14 funds.

15 Q. By doing that, does a customer agree that under certain

16 circumstances his or her collateral could be used to cover his

17 or her own losses?

18 A. Yes.

19 Q. How about, does a customer agree that under certain

20 circumstances his or her collateral could be used to cover the

21 losses of other customers?

22 A. No.

23 Q. So whose losses does collateral cover?

24 A. The users' own losses.

25 Q. Did FTX treat, say, one dollar of Bitcoin collateral the

1 same way it treated one dollar of, say, FTT collateral?

2 A. No.

3 Q. How did it treat them differently?

4 A. The BTC collateral would be treated as worth more because

5 the price of Bitcoin is less volatile than the price of FTT.

6 Q. Now, what's your recollection of approximately the most

7 amount of money that ever --

8   THE COURT: Just excuse me a minute, Mr. Roos.

9   Mr. Wang, could you just answer again the question

10 Mr. Roos just asked: How did it treat differently a dollar of

11 Bitcoin collateral versus a dollar of FTT collateral?

12   THE WITNESS: So a dollar of Bitcoin collateral it

13 would treat as being worth roughly 90 or 95 cents, whereas the

14 dollar of FTT collateral would only be treated as, say, 85

15 cents or so. That is because Bitcoin is less volatile than

16 FTT. If Bitcoin is to be sold, that would usually cause the

17 price of Bitcoin to change by less than how much the price of

18 FTT would be sold if FTT was to be sold.

19   THE COURT: Is it correct that another way to say what

20 you just said is that a unit of Bitcoin was worth more than a

21 comparable unit than FTT for the purpose of collateralizing a

22 margin loan?

23   THE WITNESS: Yes. Even if they were both nominally

24 worth one dollar, the BTC would be worth more when it is being

25 used as collateral.

1   THE COURT: That's attributable to the larger and more

2   stable market for Bitcoin than for FTT at the time you're

3   speaking of?

4   THE WITNESS: Yes.

5   Q. Just to follow up on one of Judge Kaplan's questions, you

6   said more volatile. What do you mean by that?

7   A. It means that there is less trading activity or less people

8   willing to buy or sell it. As a result, the price of it tends

9   to fluctuate more both day to day and fluctuated more as a

10 result of buying or selling a particular quantity of it.

11 Q. I believe you said FTT was more illiquid. What do you mean

12 by illiquid?

13 A. More illiquid, meaning that there is less of it traded on

14 any particular day and fewer people who are willing to

15 market-make, which then causes its price to tend to vary more.

16   THE COURT: And the word you were using was illiquid,

17 i-l-l-i-q-u-i-d, not liquid, l-i-q-u-i-d. Is that right?

18   THE WITNESS: Yes.

19 Q. One other piggyback on another question Judge Kaplan asked.

20   You talked about the value of one Bitcoin as

21 collateral versus one FTT as collateral.

22 A. One dollar of Bitcoin versus one dollar of FTT.

23 Q. My apologies. That's correct. What if it was $1 million

24 of Bitcoin versus $1 million of FTT. Is how they are treated

25 change?

1   A.   Yes.

2   Q.   How so?

3   A.   So for larger amounts of collateral in a particular coin,

4   that collateral becomes worth less as you have more of it.

5   And this discount is larger for FTT than for Bitcoin

6   because if you have a very large size of a particular

7   collateral, if it all needs to be sold at once, that's going to

8   cause a large impact to the markets. But this change in how

9   large that impact is, it's larger for less liquid coins

10   compared to more liquid coins.

11   MR. ROOS: We can take 596 down.

12   Q.   Let me just take us back to the discussion we were having

13   about margin loans and margin lending. What's your

14   recollection of approximately the most amount of money that was

15   ever available to be borrowed in the margin lending system?

16   A.   It's around $2 billion.

17   Q.   And for the majority of customers on FTX, were they

18   permitted to borrow money without going through that margin

19   lending system?

20   A.   No.

21   Q.   Was there an exception for some customers?

22   A.   Yes.

23   Q.   What was that?

24   A.   There was the line of credit system.

25   Q.   What's a line of credit?

1 A.   It's an agreement between a customer of FTX and FTX that

2 allows the customer to borrow funds to use as collateral on FTX

3 without having to deposit those funds onto FTX.

4 Q.   Was Alameda one of the customers that had a line of credit?

5 A.   Yes.

6 Q.   Was the defendant involved in giving that line of credit to

7 Alameda?

8 A.   Yes.

9 Q.   Ultimately, what size line of credit did the defendant

10 authorize for Alameda?

11 A. $65 billion.

12 Q.   What did it mean for Alameda to have a $65 billion line of

13 credit?

14 A.   It means that there is virtually no limit to how large a

15 position it can open or how many orders they can place, and

16 there is very little risk that it would be liquidated.

17 Q.   Did any other customer of the exchange have a line of

18 credit remotely close to that size?

19 A.   No.

20 Q.   Were you aware of other customers on the exchange besides

21 Alameda that had a line of credit in the billions?

22 A.   No.

23 Q.   Approximately how many customers had a line of credit, say,

24 of a million or more?

25 A.   A few dozen.

1   Q. For the few dozen customers besides Alameda who had a line

2   of credit, what was the rough size?

3   A. Usually, single to double-digit millions.

4   Q. Did a line of credit of that size, single to double-digit

5   millions, create a risk to the FTX exchange?

6   A. No.

7   Q. Why not?

8   A. Because FTX had enough funds from its trading profits and

9   from investments to be able to cover that loss if they needed

10 to.

11 Q. What about Alameda's line of credit of $65 billion, did

12 that create a risk to the exchange?

13 A. Yes.

14 Q. How so?

15 A. Because FTX would not have enough money to cover that if

16 Alameda incurred a loss of that size.

17 Q. I should have asked you this earlier. When someone is

18 taking a line of credit and they are borrowing money on a line

19 of credit, who are they borrowing that money from?

20 A. From FTX.

21 Q. Did FTX have any rules or conditions for extending lines of

22 credit?

23 A. Yes.

24 Q. Did those apply to Alameda's line of credit?

25 A. No.

1   Q.   Were there any other customers that were not subject to

2   those rules and conditions?

3   A.   No.

4   Q.   At a high level, what were the rules and conditions to

5   receive a line of credit for customers besides Alameda?

6   A.   So the customer needs to pay us an interest rate on the

7   line of credit. They are not allowed to withdraw funds from

8   the line of credit off the platform. They can only use the

9   funds on FTX itself. They are not allowed to use the line of

10   credit for spot trading. So if they have a million dollar line

11   of credit, they can't use that million dollars to buy Bitcoin

12   with it. They have to use that as collateral for margin

13   trading or for features trades. And they have to keep their

14   account popped up if their account suffers losses.

15   Q.   I am going to ask you some questions about each of those.

16   MR. ROOS: But, actually, why don't we first show the

17   witness Government Exhibit 96.

18   Q.   Do you recognize this?

19   A.   Yes.

20   Q.   What is it?

21   A.   It's a line-of-credit agreement.

22   MR. ROOS: The government offers Exhibit 96.

23   MR. EVERDELL: No objection.

24   THE COURT: Received.

25   (Government Exhibit 96 received in evidence)

1   MR. ROOS: Can we publish it?

2   THE COURT: Yes.

3 Q. Mr. Wang, now that the jury can see this, what are we

4 looking at?

5 A. It's a line-of-credit agreement.

6 Q. These are the types of agreements you said FTX customers

7 signed who got a line of credit?

8 A. Yes.

9 Q. Let's talk about the requirements that you just testified

10 about.

11   MR. ROOS: Let's look at section 4 here. Can we zoom

12 in on that.

13 Q. It says: Funds advanced through the line of credit: A.

14 Will bear interest at a rate of 4 percent annum; B, may not be

15 withdrawn from the FTX exchange.

16   I think that's something you mentioned. What did you

17 mean by that?

18 A. Say if you get a one million dollar line of credit, you

19 can't just keep that $1 million and withdraw it and use it

20 elsewhere. You have to use it on FTX itself.

21 Q. What's the reason for that?

22 A. Because -- there is two reasons. One is that if you

23 withdraw the funds, then you might not pay it back. And, two,

24 because the purpose of the line of credit is to incentivize

25 trading on FTX itself and not elsewhere.

1   Q.   4C says: Funds in advance of a line of credit may not be

2   used for spot trading. What does that mean?

3   A.   It means that you can't use -- you can't just directly use

4   the line of credit to -- you can't convert the line of credit

5   into other cryptocurrencies. You have to use it as it is.

6   MR. ROOS: Now, we can zoom out from 4.

7   THE COURT: I'm sorry. Could you explain what you

8   meant by that.

9   THE WITNESS: It means that you can only use the line

10 of credit as collateral. So the line of credit is in U.S.

11 dollars, and you can only use that as collateral for your

12 account. You can't take those U.S. dollars and directly buy

13 Bitcoin with it.

14   THE COURT: Thank you.

15 Q.   You can't invest the line of credit?

16 A.   Right.

17   MR. ROOS: Now, let's zoom out of 4 and zoom in on 5.

18 Q.   What's the requirement in part 5 here?

19 A.   It says that if the account loses value by more than some

20 threshold, it needs to deposit additional funds onto the

21 platform to make up for the loss.

22   MR. ROOS: We can zoom out of this. Let's go to the

23 next page of this agreement.

24 Q.   Who signed this line of credit agreement on behalf of FTX?

25 A.   Sam did.

1   Q.   Are you aware of Alameda signing an agreement to receive a

2   $65 billion line of credit?

3   A.   I am not.

4   Q.   Unlike other customers, was Alameda permitted to withdraw

5   money from FTX using its line of credit?

6   A.   Yes.

7   Q.   Unlike other customers, was Alameda permitted to withdraw

8   money from FTX using its line of credit without posting

9   collateral?

10   A.   Yes.

11   Q.   How did Alameda use its line of credit?

12   A.   It used that to withdraw funds. It also used it to place

13   orders for its open positions.

14   Q.   What do you mean to withdraw funds?

15   A.   To withdraw funds off the exchange.

16   Q.   Off of FTX?

17   A.   Yes.

18   MR. ROOS: We can take this exhibit down.

19   Pursuant to the stipulation in evidence as Government

20   Exhibit 2002, the government offers Exhibit 644.

21   THE COURT: It's received.

22   (Government Exhibit 644 received in evidence)

23   MR. ROOS: May we publish it?

24   THE COURT: Yes.

25   Q.   Mr. Wang, what are we looking at here?

1 A. This is showing the entry in FTX's accounts table for

2 Alameda's main accounts.

3 Q. That's this info@alameda account?

4 A. Yes.

5   MR. ROOS: Now, why don't we zoom in on the column

6 called borrow.

7 Q. Will you reremind us what that column refers to.

8 A. It's -- it refers to the size of the higher credit for the

9 accounts.

10   MR. ROOS: Mr. Bianco, can you just do it again so it

11 doesn't cut off the numbers here.

12 Q. What does the database state was Alameda's line of credit

13 on FTX?

14 A. $65,300,000,000.

15   MR. ROOS: We can take that part down, and I want to

16 look at a different column.

17 Q. I had asked you a bunch of questions about margin loans a

18 few minutes ago.

19   Do you remember that?

20 A. Yes.

21 Q. Now, let's look at this column called spot margin enable.

22   Do you see that?

23 A. Yes.

24 Q. What does that column refer to?

25 A. That refers to whether or not the account is in the

1   spot-margin program, whether it's allowed to borrow from the

2   spot-margin program.

3   Q.   Was Alameda's account even in the spot-margin program?

4   A.   Not this account.

5   Q.   So was this account doing margin borrowing?

6   A.   No.

7   Q.   Just a general approximation. How much money did Alameda

8   take through its main account?

9   A.   A few billion dollars. I think around $3 billion.

10   Q.   It was negative, that number?

11   A.   Yes.

12   Q.   Were those margin loans?

13   A.   No.

14   Q.   Why not?

15   A.   Because it's not in the spot-margin program.

16   THE COURT: So this was a few billion dollars in

17   borrowing against the line of credit of 65 billion?

18   THE WITNESS: Yes.

19   THE COURT: Thank you.

20   MR. ROOS: We can take this page down. We can take

21   the whole exhibit down.

22   Q.   Was Alameda Research's line of credit always 65 billion?

23   A.   No.

24   Q.   How was it that Alameda Research got a line of credit?

25   A.   This happened a few times that Alameda had issues placing

1   orders on the exchange. Because Alameda was one of the main

2   market makers on FTX that placed a large amount of orders in a

3   large number of markets and each of those orders needs

4   collateral to be placed. And a few times over the years

5   Alameda would start running into issues placing orders because

6   it did not have enough collateral. And when that happened,

7   someone from Alameda would tell Sam and Sam would tell me that

8   Alameda is having issues placing orders because it doesn't have

9   enough collateral, and then Sam asks me to take up Alameda's

10   line of credit.

11   Q.   How many times did that happen?

12   A.   A few times.

13   Q.   Did you initially move Alameda's line of credit to 65

14   billion?

15   A.   No.

16   Q.   Give us the progression.

17   A.   So initially it was just a few million dollars, a few

18   hundred million dollars, and then this kept happening, so then

19   to prevent this from continuing to be an issue, Sam asked us to

20   take it a large number. I took it up to a billion dollars, and

21   then the issue happened again. And then he asked me to take it

22   up even farther, and I told him I am taking it up to $65

23   billion. He said he is fine with that, and then I did that.

24   Q.   Did you discuss the number 65 billion with the defendant?

25   A.   Yes.

1   Q. What did it mean in practice for -- withdraw the question.

2   Judge Kaplan asked you about the used line of credit

3   versus the total line of credit a few moments ago.

4   Do you remember that?

5   A. Yes.

6   Q. What did it mean in practice for Alameda to have a $65

7   billion line of credit?

8   A. It means that it could potentially put on conditions that

9   would require $65 billion of collateral and, in addition, it

10 could withdraw up to that amount.

11 Q. It can withdraw up to what amount?

12 A. $65 billion, even if it did not have the allow-negative

13 feature turned on.

14 Q. So I just want to be clear about that last part you said.

15 Did allow negative let Alameda make unlimited withdrawals?

16   MR. EVERDELL: Objection. Asked and answered.

17   THE COURT: Overruled.

18 Q. Did allow negative let Alameda to make unlimited

19 withdrawals?

20 A. Yes.

21 Q. Did a $65 billion line of credit separately also allow

22 that?

23 A. Yes.

24 Q. What risks, if any, did this introduce to the exchange?

25 A. If Alameda withdrew all of that money and it was unable to

1 pay it back, then customers might not be able to withdraw the

2 funds from the platform.

3 Q. In late 2021, did you become aware of how much money

4 Alameda had withdrawn from FTX using its line of credit?

5 A. Yes.

6 Q. Where did you see that amount?

7 A. In the database.

8 Q. How much was it?

9 A. It was around $3 billion.

10 Q. Did you discuss that information with the defendant?

11 A. Yes.

12 Q. Now, on the topic of treatment of Alameda, was Alameda

13 Research treated the same or differently as other customers of

14 FTX?

15 A. Differently.

16 Q. Do you recall the defendant ever making public statements

17 about how Alameda Research was treated on FTX?

18 A. Yes.

19 Q. What sort of statements do you recall him making?

20 A. He would say that Alameda is treated like any other market

21 maker on FTX, that Alameda trades on FTX and is a market maker

22 on FTX, but it's no different than any other market maker on

23 FTX. It is trading using its own money. It doesn't use

24 customer funds.

25 Q. When do you recall the defendant making those statements?

1   A.   He said this on Twitter, he said this in blog posts, he did

2   this in interviews, and I heard him say this on phone calls

3   with journalists and investors.

4   Q.   How were you able to hear him say this on phone calls with

5   journalists and investors?

6   A.   The office was an open-plan office, and he would take phone

7   calls sometimes at his desk or just walking around the office,

8   and I could hear his end of the conversation.

9   Q.   Was there ever a time that you saw the defendant tweet

10   about Alameda Research not having special treatment?

11   A.   Yes.

12   MR. ROOS: The government offers Exhibit 817 pursuant

13   to the stipulation marked as Government Exhibit 2001.

14   THE COURT: Received.

15   (Government Exhibit 817 received in evidence)

16   MR. ROOS: May we publish?

17   THE COURT: You may.

18   Q.   Mr. Wang, do you see the top tweet with someone with the

19   user name bitshine?

20   A.   Yes.

21   Q.   He asks: How are you going to resolve the conflict of

22   interest of running your own derivatives exchange and actively

23   trading against the market at the same time.

24   You see that tweet?

25   A.   Yes.

 1   Q.   What's the date on that?

 2   A.   July 31, 2019.

 3   Q.   How does the defendant respond?

 4   A.   That its account is like everyone else's and doesn't

 5   have --

 6   Q.   You're referring to, Alameda is a liquidity provider on

 7   FTX, but their account is just like everyone else's?

 8   A.   Yes.

 9   Q.   Let me ask you about that. The date on that tweet response

10   is what?

11   A.   July 31, 2019.

12   Q.   Now, earlier in your testimony did you testify about

13   anything else on July 31, 2019?

14   A.   Yes.

15   Q.   What happened that same day?

16   A.   We created the allow-negative feature on FTX and enabled it

17   for Alameda's account and a few other accounts.

18   Q.   Was it true that Alameda was a liquidity provider in FTX,

19   but their account was just like everyone else's?

20   A.   No.

21   MR. ROOS: We can take this down.

22   Q.   In addition to the defendant's statement about Alameda not

23   being treated differently, do you remember him making any

24   statements about how customer funds were treated?

25   A.   Yes.

1   Q. What do you recall him saying?

2   A. That customer funds are kept safe, that they are held in

3   hot and cold wallets of FTX.

4   Q. Who do you recall him saying that to?

5   A. On phone calls and on Twitter and in interviews.

6   Q. Was that true?

7   A. No.

8   Q. Why wasn't it true that customer funds were kept in cold

9   and hot storage wallets?

10 A. Because some of it was withdrawn from FTX from the

11 platform.

12 Q. By FTX?

13 A. It was withdrawn by Alameda from FTX.

14 Q. You said hot and cold storage wallets. What are you

15 talking about?

16 A. The cryptocurrency wallets that FTX had -- that FTX used

17 to -- the cryptocurrency wallets that FTX had that it used to

18 store customer assets.

19 Q. I just want to take a step back on this for a second. What

20 is a cryptocurrency wallet?

21 A. It's an account on the Blockchain that holds

22 cryptocurrencies, so it has -- there are a public address --

23 the wallet has a public address, and then there is a private

24 key that the owner of the account has which allows them to

25 withdraw from the accounts.

1 Q. To what extent is this like a bank account but for

2 cryptocurrency?

3 A. That's basically what it is. Except instead of a bank

4 holding onto the account, you hold onto the account yourself.

5 Q. Now, you said FTX had these wallets and they were hot and

6 cold. What does that mean?

7 A. So hot wallets are the wallets that are being used to

8 automatically handle deposits and withdrawals, and it is

9 connected to the Internet. And the cold wallet is a separate

10 wallet that's not connected to the Internet which is a more

11 secure storage for assets, and periodically there is transfers

12 between the two to facilitate customer withdrawals.

13 Q. What did the defendant say about customer funds being held

14 in hot and cold wallets?

15 A. That it was held in these wallets and a certain amount was

16 held in the hot wallets and the remaining was held in the cold

17 wallets.

18 Q. Was that true?

19 A. Well, some of it was also held by Alameda.

20 Q. Let's change topics.

21   Did FTX advertise how it managed risk associated with

22 customer trading on margin?

23 A. Yes.

24 Q. By margin, I mean on margin loans or borrowed funds.

25 A. Yes.

1 Q. What did FTX advertise publicly about that?

2 A. That it was -- that FTX had an advanced margin system and

3 advanced liquidation -- good liquidation system that ensured

4 that customers' losses won't be borne by other customers, that

5 one customer going bankrupt won't affect other customers on the

6 exchange.

7 Q. You described for us what liquidation is earlier in your

8 testimony today, but can you walk us through the various

9 processes for liquidating an account or a position.

10 A. Yes. First, there is an automated process that detects

11 whether or not an account should be liquidated or not based on

12 its position size and its collateral. When it falls below that

13 threshold, the first step, the FTX starts selling the account's

14 positions just on the open market, just on the order book.

15   After a while, if that's not enough, if the account

16 keeps losing money and its positions can't be closed this way,

17 then it goes to the backstop liquidity providers, which are a

18 set of market makers that have agreed to backstop liquidations.

19 Q. Let me take those two parts. The first part, when you're

20 liquidating positions, is that automatic or does someone need

21 to trade?

22 A. Both of these are automatic.

23 Q. And the second part, these backstop liquidity providers,

24 what does that refer to?

25 A. There are particular market makers, other users on the

1   platform who have agreed to be part of the process for

2   liquidating the other accounts.

3   Q. When you say these other users who help be part of the

4   process to liquidate, what are you referring to?

5   A. Once an account falls into the -- falls into the range that

6   it would require sending the account's positions to the

7   backstop liquidity providers, at that point the positions in

8   the account are sold off to the market makers along with the

9   collateral in the accounts.

10 Q. So the backstop liquidity provider user helps to liquidate

11 the account?

12 A. Yes.

13 Q. What happens if the backstop liquidity provider makes some

14 money as part of that liquidation?

15 A. So part of the profits from the liquidations goes into an

16 insurance fund, and the insurance fund is used so that if the

17 backstop liquidity provider would lose money liquidating the

18 account, they get compensated from this insurance found.

19 Q. That brings me to my next question. What happens when the

20 backstop liquidity provider is liquidating an account and they

21 take a loss?

22 A. They are compensated for the loss from the insurance fund.

23 Q. When you say backstop liquidity provider, what are we

24 talking -- who are we talking about in practical terms? Who

25 are these backstop liquidity providers?

1 A. These are typically hedge funds on trade on FTX.

2 Q. So you mentioned an insurance fund. At a high level, what

3 was that?

4 A. So it's an entry in FTX's database that keeps track of how

5 much funds were taken from profitable liquidations to help --

6 to hold in reserve for unprofitable liquidations.

7 Q. Was this also called a backstop fund?

8 A. Yes.

9 Q. What was the purpose of the insurance fund or the backstop

10 fund?

11 A. To ensure that if an account does not get liquidated in

12 time, that other customers of FTX and FTX itself won't be

13 affected by the loss of the customer.

14 Q. What was the purpose of having all these steps:

15 Liquidation, backstop liquidity provider, insurance fund?

16 A. So they are there to protect FTX and protect its other

17 customers.

18 Q. What do you mean by protect other customers? What were you

19 trying to prevent?

20 A. Prevent that if one customer loses a bunch of money trading

21 that other customers of FTX won't be affected by this one user.

22 Q. Have you ever heard of the concept of a clawback?

23 A. Yes.

24 Q. What's a clawback?

25 A. When FTX was founded, on certain other cryptocurrency

1   exchanges that had futures, when liquidations failed to happen

2   quickly enough and users become negative as a result of that,

3   those customer losses are made up by taking some of the profits

4   from profitable traders in the bucket, so other customers'

5   trading profits are taken away to use to fill in the hole left

6   by customers who went negative.

7   Q.   What did the defendant say about clawbacks on FTX?

8   A.   That they would not happen.

9   Q.   Did FTX advertise its risk management system as a selling

10 point of the exchange?

11 A.   Yes.

12 Q.   How so?

13 A.   That it advertised that it had a good risk system, a good

14 liquidation system which, as a result, would prevent these

15 clawbacks from happening.

16 Q.   Did FTX advertise the insurance fund amount that it had

17 publicly?

18 A.   Yes.

19   MR. ROOS: The government offers Exhibit 751 pursuant

20 to stipulation marked as Government Exhibit 2001.

21   THE COURT: It's received.

22   (Government Exhibit 751 received in evidence)

23   MR. ROOS: May we publish?

24   THE COURT: Yes.

25 Q.   Mr. Wang, looking at Government Exhibit 751, which is a

1   February 14, 2021 tweet, what does this tweet show?

2   A.   It shows the screenshot of the size of the backstop fund.

3   Q.   When you say backstop fund, this is the same insurance fund

4   that's supposed to cover losses?

5   A.   Yes.

6   Q.   And the number here, what is the size of the backstop fund

7   listed?

8   A.   Five and a half million USD and five million FTT.

9   Q.   Now, was this number listed on the tweet accurate?

10   A.   No.

11   Q.   Why not?

12   A.   For one, there is no FTT in the insurance fund. It's just

13   the USD number. And, two, the number listed here does not

14   match what was in the database.

15   Q.   What do you mean, it doesn't match?

16   A.   The number in the databases was a different number.

17   Q.   Where did this number come from?

18   A.   This comes from a page on the website that claims to show

19   what was in the insurance fund, but it was actually calculated

20   separately.

21   Q.   What do you mean, claims to show?

22   A.   So it's labeled as a backstop fund. It shows a number.

23   But that number also calculated in a different process from

24   what the insurance fund was actually using.

25   Q.   Is it a real number?

1   A.   No.

2   Q.   So it's a fake number?

3   A.   Yes.

4   Q.   Was the real number higher or lower than the fake number?

5   A.   Lower.

6   MR. ROOS: Can we show the witness what's been marked

7   as Government Exhibit 600.   Actually, the government offers

8   Exhibit 600 pursuant to stipulation 2002.

9   THE COURT: Received.

10   (Government Exhibit 600 received in evidence)

11   MR. ROOS: May we publish?

12   THE COURT: Yes, sir.

13   Q.   Mr. Wang, what are we looking at here?

14   A.   This is a screenshot of a change to the FTX code base.

15   Q.   Earlier in your testimony we looked at some that were white

16   with green and red changes.   This is black.   Is there any

17   significance to that?

18   A.   No.

19   Q.   Someone just has a black background instead of a white one?

20   A.   Yes.

21   Q.   Now, what does this particular part of the code relate to?

22   A.   This is adding a process that generates that number that

23   shows up and also adds that page to the website.

24   Q.   Does this part of the code say how that insurance fund

25   number on the website would be calculated?

1 A. Yes.

2   MR. ROOS: Why don't we scroll about halfway down

3 through this code, Mr. Bianco, to the part that says insurance

4 fund updater.PY.

5 Q. Do you see that, Mr. Wang?

6 A. Yes.

7 Q. What is the part of the code called public insurance fund

8 updater.PY refer to?

9 A. It's part of the code that updates that number that shows

10 up on the website.

11 Q. Does this part of the code give the calculation for how

12 that number is calculated?

13 A. Yes.

14 Q. Where does that appear?

15   We can have Mr. Bianco scroll down for you, if needed.

16 A. It shows up in lines 16 through 19.

17 Q. Can you help us decipher what that means right there, 16 to

18 19.

19 A. Yes. First, line 16 is saying what the name of this

20 function is. Line 17, it's getting the daily -- it's getting

21 the total volume of trades from the past 24 hours on FTX. Then

22 in line 19 it's taking that number, multiplying it -- then

23 multiplies that by a random number that's around 7500 and then

24 dividing the result by a billion. That's a number that gets

25 added to the number that shows up on the website.

1 Q. So it takes the daily volume, multiplies it by a random

2 number and divides it by a billion?

3 A. Yes.

4 Q. Does that number have anything to do with the actual number

5 in the insurance fund?

6 A. No.

7 Q. How do the two compare?

8 A. This number was larger.

9 Q. Were there times -- let me ask first, was the public

10 outside the company, so customers, were they told that the

11 insurance fund number on the site didn't accurately reflect the

12 real number?

13 A. No.

14 Q. Were there times when there was not enough money in the

15 real insurance fund to cover losses?

16 A. Yes.

17 Q. What happened in those circumstances?

18 A. In those cases, money would be moved over from Alameda into

19 the insurance fund, or the insurance fund would just be

20 increased without funds being subtracted.

21 Q. In those circumstances, did you have any conversations with

22 the defendant?

23 A. Yes.

24 Q. And what did he say needs to happen?

25 A. That we need to add more funds to the insurance fund from

1   Alameda's account.

2   Q.   What was the purpose of that?

3   A.   So that liquidations can continue to happen.

4   Q.   Now, in addition to taking money and adding it to the

5   insurance fund, were there ever times where Alameda just took

6   on losses?

7   A.   Yes.

8   Q.   Can you describe what happened.

9   A.   There are cases where there is a large market movement. So

10   when the prices of tokens that trade on FTX change by a large

11   amount, and this triggers a large amount of liquidations,

12   sometimes in those cases this will cause a very large loss to

13   come from the insurance fund, and in those cases Sam would ask

14   me to go into the database and change the prices that Alameda

15   paid for those liquidation, which would cause Alameda to take

16   the loss instead of the insurance fund.

17   In other cases, there would be one big account that

18   needs to be liquidated at a loss, and then Sam would just help

19   me to take that account that needs to be liquidated at a loss

20   and just have Alameda take it on.

21   Q.   Let me ask you a few follow-up questions with that last

22   part. There were some big accounts that took -- that had a

23   loss, you said?

24   A.   Yes.

25   Q.   And can you give us any more specifics on when that

1   happened or an example of that.

2   A.   The one example of this, there was an account that

3   exploited a loophole in FTX's margin system which allowed them

4   to deposit a small amount of collateral but then use that to

5   put -- over the course of a couple of months put on a very

6   large position, and then at some point the value of the

7   position began to drop and caused them to need to be

8   liquidated. And while putting on this position they moved the

9   price that they were trading by a large amount. So when they

10 needed to be liquidated, they -- what was liquidating incurred

11 a large loss.

12 Q.   Which cryptocurrencies did this happen in?

13 A.   In this particular case it involved MobileCoin, MOB.

14 Q.   MOB or MobileCoin is a cryptocurrency?

15 A.   Yes.

16 Q.   Do you remember when this happened?

17 A.   This was in 2021.

18 Q.   I think you used the word exploited a loophole?

19 A.   Yes.

20 Q.   Or phrase.

21   Is it OK if I refer to this as the MobileCoin

22 exploitation?

23 A.   Yes.

24 Q.   I am going to ask you a few questions about the MobileCoin

25 exploitation.

1   How big of a loss did the MobileCoin exploitation

2   cause?

3   A.   Several hundred million dollars.

4   Q.   And what company would have had to take that expense or

5   loss?

6   A.   FTX.

7   Q.   Now, did you talk to the defendant about what to do with

8   that loss?

9   A.   Yes.

10   Q.   What did he say?

11   A.   He told me to have Alameda take it on.

12   Q.   How did it work to have Alameda take on that expense?

13   A.   So that account -- the accountants of that account and its

14   positions, both its positions and its collateral, were

15   transferred to Alameda.

16   Q.   When that happened, what, if anything, did the defendant

17   say about why it should be Alameda?

18   A.   He said that FTX's balance sheets are more public than

19   Alameda's balance sheets, that investors have access to FTX's

20   finances but not Alameda's finances.

21   Q.   Do you recall the defendant ever saying that if there was a

22   big loss FTX would have to claw back money from FTX's customers

23   to cover it?

24   A.   No.

25   Q.   Do you recall the defendant ever saying that if there was a

1   big loss FTX would have to make other customers cover it?

2   A.   No.

3   MR. ROOS: Your Honor, at this point we are going to

4   play a recording and use the transcripts, if your Honor is OK.

5   THE COURT: Why don't we take our morning break here,

6   15 minutes.

7   (Jury not present)

8   (Recess)

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1   (In open court; jury not present)

2   THE COURT: How much more on the direct, Mr. Roos?

3   MR. ROOS: I think, by my outline, we're a little over

4   2/3 of the way through, but those code parts were the longest

5   and so my guess is an hour. Could be less. I'm not sure.

6   THE COURT: Okay.

7   (Continued on next page)

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1   (Jury present)

2   THE COURT: Okay. The defendant and the jurors all

3 are present, as they have been throughout.

4   Mr. Roos, you may continue.

5   MR. ROOS: Thank you, your Honor.

6 BY MR. ROOS:

7 Q. Mr. Wang, you were testifying about some expenses or

8 losses, and I want to play a recording for you.

9   MR. ROOS: Government offers Exhibit 919-A, pursuant

10 to stipulation 2000. And according to the stipulation, this is

11 an excerpt from a Bloomberg interview with Samuel

12 Bankman-Fried.

13   THE COURT: Okay.

14   (Government's Exhibit 919-A received in evidence)

15   MR. ROOS: May we play it, your Honor?

16   THE COURT: You may. It's received.

17   MR. ROOS: And your Honor, the jurors have under their

18 seats a binder containing transcripts, and so with your Honor's

19 permission, they could read along under the tab for 919.

20   THE COURT: Okay. Folks, please do that. I instruct

21 you that the evidence is the audio recording, not the

22 transcript, and in case there's anything that you hear that's

23 different in the recording from what's in the transcript, it's

24 the recording that counts.

25   Let's go.

1   MR. ROOS: Thank you, your Honor.

2   Mr. Bianco, can you play 919-A.

3   (Audio played)

4   THE COURT: Given the proclivity of the speaker to

5   speak in a language that I'm not fully understanding, do you

6   have a transcript for me?

7   MR. ROOS: We can get one. Mr. Ahuja I think can get

8   it.

9   THE COURT: I don't have this problem often, only with

10   anybody under 50.

11   If you don't have it, I'll struggle through.

12   Thank you very much. Okay. Let's resume.

13   MR. ROOS: And your Honor, it's 919-A, and it says

14   Matt Levine is the reporter who was speaking quickly there.

15   THE COURT: Thank you.

16   MR. ROOS: And Mr. Bianco, why don't we start it again

17   from the beginning.

18   (Audio played)

19   BY MR. ROOS:

20   Q. Mr. Wang, let's just start with the basics. The second

21   speaker you heard there, who was that?

22   A. That was Sam.

23   Q. Okay. And he used the word "blowout." What is a blowout?

24   A. It's when prices move in the market all at once by large

25   amounts and—and that results—that causes a large number of

1 accounts to be liquidated.

2 Q. Okay. And he said that FTX never had a day where there

3 were blowouts greater than revenue. Did you hear that?

4 A. Yes.

5 Q. Was that true?

6 A. No.

7 Q. Why not?

8 A. There were days where FTX lost more money from customers

9 going—being liquidated than FTX earned in trading fees.

10 Q. Okay. And on those days what did FTX do to deal with those

11 expenses or losses?

12 A. It transferred them to Alameda.

13 Q. And who, if anyone, said that FTX should do that?

14 A. Sam did.

15 Q. All right. Let's turn to the year 2022.

16   MR. ROOS: We can put our binders and the recording

17 away.

18 Q. Turning to 2022, were there any times when you spoke with

19 the defendant about Alameda having a negative balance?

20 A. Yes.

21 Q. Did you ever observe the defendant looking at Alameda's

22 negative balance?

23 A. Yes.

24 Q. What did you see him doing?

25 A. So—so Sam had six monitors connected to his computers and

1   usually half of one of those screens, he had Alameda's balances

2   pulled up.

3   MR. ROOS: Could we bring back up Government

4   Exhibit 1475.

5   Q. Now, Mr. Wang, the screens here——what's on the screens has

6   been blurred out, but are these the screens you were referring

7   to?

8   A. Yes.

9   Q. And what did he have up there that showed Alameda's

10 balances?

11 A. The page from——from Alameda's trading system, called

12 Pointer, would show how much Alameda had on various exchanges

13 and what coins it had on those exchanges.

14 Q. And how frequently would you see him looking at that?

15 A. I didn't see him looking directly at that screen, but it

16 was just there on his screen.

17 Q. Let Le rephrase the question. How frequently was that on

18 one of the defendant's screens?

19 A. I think it was usually there.

20 Q. Like daily it was there?

21 A. Yeah.

22 Q. And in 2022?

23 A. Yes.

24   MR. ROOS: All right. We can take down the picture.

25 Q. I want to direct your attention to the month of June 2022.

1   Okay. Did there come a time when you worked on a project to

2   calculate Alameda's total balances?

3   A. Yes.

4   Q. What gave rise to that project?

5   A. There was a group chat that Sam started where he asked me

6   to figure out what Alameda's balances on FTX were.

7   Q. At that time what was taking place in the cryptocurrency

8   market?

9   A. Prices for a bunch of cryptocurrencies had fallen by a

10 large amount.

11 Q. And you testified yesterday that Alameda funded itself

12 through loans. Do you remember that?

13 A. Yes.

14 Q. Was that true in 2022 as well?

15 A. Yes.

16 Q. Okay. And what was happening at Alameda with respect to

17 its loans at this time in June 2022?

18 A. Some lenders were asking for their money back.

19 Q. As part of the defendant's project to review Alameda's

20 balances on FTX, did you work on a spreadsheet?

21 A. Yes.

22 Q. And when you say spreadsheet, just so we're all clear, what

23 type of computer file are you talking about?

24 A. So a Google Sheets.

25 Q. And——

1   A.   In Google.

2   Q.   A Google Sheets. So what does that look like?

3   A.   So it's a spreadsheet with——I mean, it looks like——looks

4   pretty similar to Excel. It's just a spreadsheet with a bunch

5   of cells and columns and formulas in them.

6   Q.   How common was it to use a Google sheet or an Excel

7   document at FTX or Alameda?

8   A.   Pretty common.

9   Q.   And when you were working on those spreadsheets, did you

10   share them?

11   A.   Yes.

12   Q.   How did you share them?

13   A.   For Google Sheets, just using Google's built-in sharing

14   feature.

15   Q.   And did you share them in any way besides Google Sheets?

16   A.   By sending the link to it in Signal chats.

17   Q.   And when you were sharing the spreadsheets over Google, was

18   it possible for more than one person to look at the spreadsheet

19   at a given time?

20   A.   Yes.

21   Q.   Was it possible for more than one person to edit a

22   spreadsheet at a given time?

23   A.   Yes.

24   Q.   What about leave comments?

25   A.   Yes.

1   Q.   Was it a common practice at FTX and Alameda to use

2   spreadsheets in this way?

3   A.   Yes.

4   Q.   Now circling back to the defendant's balance project, did

5   you meet in person or communicate over Google or some other

6   computer method?

7   A.   Initially we communicated online, and then later on we met

8   in person.

9   Q.   I'm going to show you what's been marked——just for the

10   witness——as Government Exhibit 50.

11   Do you recognize this?

12   A.   Yes.

13   Q.   What is it?

14   A.   It's a spreadsheet we worked on to calculate Alameda's

15   balances.

16   Q.   Is this the spreadsheet that you worked on back in June

17   2022 that you were talking about?

18   A.   Yes, except this has been exported to Excel.

19   MR. ROOS: Okay. Government offers Exhibit 50.

20   MR. EVERDELL: No objection.

21   THE COURT: Received.

22   (Government's Exhibit 50 received in evidence)

23   MR. ROOS: May we publish it?

24   THE COURT: Yes.

25   BY MR. ROOS:

1 Q. Mr. Wang, there are several tabs to this spreadsheet.

2 A. Yes.

3 Q. I want to ask you several questions about it. Let's kind

4 of march through it.

5   So first, what prompted the creation of this

6 particular spreadsheet?

7   MR. ROOS: I'm sorry. Did I ask if this could be

8 published to the jury?

9   THE COURT: You didn't. Would you like to?

10   MR. ROOS: If I didn't, I'd like to, if that's okay.

11   THE COURT: Sure.

12   MR. ROOS: Okay.

13   THE COURT: And let's be clear, when you use the term

14 worksheet, whether you are referring to a particular tab on

15 this multi-tab document or to the whole thing.

16   MR. ROOS: Okay. Thank you, your Honor.

17 BY MR. ROOS:

18 Q. So, Mr. Wang, first, talking about the whole document, what

19 prompted the work on the balances spreadsheet?

20 A. Sam asked us to figure out what Alameda's balances on FTX

21 were.

22 Q. Was this particular whole spreadsheet shared among multiple

23 people?

24 A. Yes.

25 Q. Who worked on it?

1   A.   I did, Caroline did, Nishad did, and Sam looked at it.

2   Q.   So the defendant, Caroline Ellison, Nishad Singh, and you.

3   A.   Yes.

4   Q.   And when was this worked on?

5   A.   In June 2022.

6   Q.   Let's start with Sheet 1, so the first tab here. Do you

7   see that?

8   A.   Yes.

9   Q.   Okay. And what is on this sheet?

10 A.   This is Alameda's records of what balances it has on each

11 exchange——I mean, what Alameda has on each account it has on

12 FTX.

13 Q.   Okay. So I want to just orient us. Let's go column by

14 column.

15   What does column A show?

16 A.   Column A shows Alameda's internal name for that account.

17 Q.   And so FTX or FTX FTT, those are all names.

18 A.   Yes.

19 Q.   What does column B show?

20 A.   It shows the balance in USD of that account.

21 Q.   What do you mean balance in USD?

22 A.   So the US dollar value of the——the balance in the account.

23 Q.   So just to be clear on how we read this, let's look at the

24 very first one below there. It says five billion

25 seventy-seven. Do you see that?

1   A.   Yes.

2   Q.   And so that's the balance in that account; is that right?

3   A.   Yes.

4   Q.   And when there's a dash in front of it, those are negative

5   balances; is that right?

6   A.   Yes.

7   Q.   Okay. What's column C?

8   A.   Column C is the email address associated with the account

9   on FTX.

10   Q.   That's like the user name.

11   A.   Yes.

12   Q.   Okay. And so if you see the sixth row, row 6?

13   A.   Yes.

14   Q.   And do you see the user name there is

15   info@alamedaresearch.com?

16   A.   Yes.

17   Q.   The main Alameda account you testified about earlier in

18   your testimony?

19   A.   Yes.

20   Q.   Okay. And then what is column D?

21   A.   Column D is the name of the subaccounts, if the account has

22   subaccounts.

23   Q.   Okay. Column E says Notes?

24   A.   Yes.

25   Q.   All right. Now the column B for balances, why don't we——

1   MR. ROOS: Mr. Bianco, could you select the first

2   balance and highlight down to the last balance listed there.

3   Q. And Mr. Wang, do you see at the bottom of the screen it

4   says Sum?

5   A. Yes.

6   Q. What does it say is the sum?

7   A. Negative 20 billion.

8   Q. So the total on Sheet 1 of Alameda's balances is negative

9   20 billion; is that right?

10   A. Yes.

11   THE COURT: I don't think this is all on the screen.

12   MR. ROOS: Sorry. You don't think which part is on

13   the screen, your Honor?

14   THE COURT: 20 billion.

15   MR. ROOS: Let's put that back up, Mr. Bianco. Just

16   highlight all the balances in column B and leave it, and then I

17   will——I think I can highlight it right here.

18   BY MR. ROOS:

19   Q. Is that the number you're referring to, the sum?

20   A. Yes.

21   THE COURT: No. What you've circled is what appears

22   to be a search line, on my screen.

23   MR. ROOS: How about other folks?

24   How about, Mr. Bianco, is it possible to sort of move

25   up the bottom of the——it's not.

1   What about like unexpanding the doc? Yeah, okay. And

2   then not all the way down.

3   Mr. Bianco, thank you.

4   BY MR. ROOS:

5   Q.   And is this the sum number——

6   THE COURT: I see.

7   Q.   ——that you were referring to?

8   THE COURT: From what you're referring to, yes, I see

9   it now, and it's not within the spreadsheet, it's elsewhere,

10   but I see it now.

11   Q.   So is that the sum, Mr. Wang, of all the balances listed on

12   this sheet?

13   A.   Yes.

14   Q.   And that sum is what number?

15   A.   Negative 20 billion.

16   Q.   So the total listed on Sheet 1 for Alameda's accounts is

17   negative 20 billion.

18   A.   Yes.

19   Q.   That's the total balance.

20   A.   Yes.

21   Q.   Now who worked on this first sheet?

22   A.   Caroline did.

23   MR. ROOS: And Mr. Bianco, if we can expand this again

24   to fill the whole page, and we'll scroll to the top.

25   Q.   So Caroline Ellison worked on this. And did the defendant

1   have any reaction upon seeing or hearing negative 20 billion?

2   A.   He thought that that number was too negative, that the

3   actual number for Alameda's balances were probably more

4   positive than 20 billion.

5   Q.   So he thought the number was wrong.

6   A.   Yes.

7   Q.   Okay. Was it?

8   A.   Yes.

9   Q.   How so?

10   A.   It was—it was off by around $8 billion because of a bug in

11   FTX's accounting system.

12   Q.   Can you describe what the bug in the accounting

13   system—actually, before I ask you that, let me ask you: What

14   accounting system are you referring to?

15   A.   The accounting system for keeping track of USD deposits and

16   withdrawals into bank accounts for customers of FTX.

17   Q.   So USD deposit and withdrawals, what does that mean?

18   A.   So deposits and withdrawals, deposits and withdrawals from

19   bank accounts into FTX.

20   Q.   So dollars.

21   A.   Yes.

22   Q.   People depositing and withdrawing collars.

23   A.   Yes.

24   Q.   This is different than the cryptocurrency.

25   A.   Yes.

1   Q.   And how did FTX account for that?

2   A.   So initially when FTX was created, FTX did not have its own

3   bank accounts, and it used——and it used Alameda's bank

4   accounts, and whenever a customer would deposit funds

5   into——whenever a customer deposits dollars into FTX via the

6   bank, they would send the dollars into F——into Alameda's bank

7   accounts, and then on FTX, their accounts on FTX would——the

8   user's account on FTX would be incremented by however much they

9   deposited and a special fiat@ftx.com account would be

10   decremented by the same amount.

11   Q.   What is incremented and decremented?

12   A.   So increased and decreased.

13   Q.   So the accounting system you described, is that that fiat@

14   account?

15   A.   Yes.

16   Q.   What is that fiat@ account supposed to reflect?

17   A.   It reflects however much Alameda owes FTX due to these

18   customers' deposits.

19   Q.   Is it supposed to reflect the amount of money in these

20   accounts, bank accounts?

21   A.   Well, sort of, because if a customer deposits dollars and

22   withdraws it as a stablecoin, then Alameda takes the money in

23   the bank account, withdraws it, turns it into a stablecoin,

24   deposits it back into FTX.   So it won't actually reflect what's

25   in the bank account itself.   It just reflects how much Alameda

1   owes FTX for these deposits.

2   Q.   For the fiat deposits.

3   A.   Yes.

4   Q.   And what was then the bug?

5   A.   So the bug was that when customers withdraw dollars from

6   FTX—so what should happen is that when a customer withdraws

7   dollars from FTX, Alameda sends out the money from its bank

8   accounts and then the customer's account is decremented by that

9   amount and the fiat account is incremented by that amount, to

10   show that Alameda no longer owes FTX this money. But there was

11   a bug where, for certain withdrawals, for certain type of

12   withdrawals, the account was not incremented, the account

13   balance was not incremented, and so the value in the

14   fiat@ftx.com account would be too negative.

15   Q.   Let me say it to you very basically and you tell me if this

16   is right. Basically it was just not recording withdrawals.

17   A.   After—certain types of withdrawals, yes.

18   Q.   Certain types of withdrawals. Okay. So you said the total

19   balance for Alameda was wrong on that first sheet. How was it

20   wrong?

21   A.   It was too negative. The actual value should have been

22   less negative.

23   Q.   And that's because of that fiat account.

24   A.   Yes.

25   Q.   So did you work on a revised estimate of Alameda's

1 balances?

2 A. Yes.

3 Q. Let's look at Tab 2 of Exhibit 50. What does Tab 2, or

4 Sheet 2, as it's labeled, refer to?

5 A. It's a—it's a—it's how much Alameda has on FTX as

6 reflected in FTX's database, as opposed to Sheet 1, which was

7 as reflected in Alameda's database.

8 Q. Okay. And again, let's just talk about what the columns

9 refer to. What is column A?

10 A. Column A is the account ID of the account or subaccount at

11 FTX.

12 Q. And so earlier we looked at a table that listed account IDs

13 within FTX's database. Are those the same account IDs that are

14 here?

15 A. Yes.

16 Q. And column B, what does that refer to?

17 A. The name of the account, the subaccount.

18 Q. And column C, what does that refer to?

19 A. The value in dollars of the balances of the accounts.

20 Q. Okay. Now do you see row 17?

21 A. Yes.

22 Q. Which account is that?

23 A. That's the info@alamedaresearch.com account, the main

24 trading account.

25 Q. What is the balance in that account as of June 2022?

1 A. Negative $2.7 billion.

2 Q. I want to be clear about something, since we've been

3 talking about fiat and crypto balances. This 2.784 billion

4 negative number, is that part of the fiat deposit stuff you

5 were just talking about?

6 A. No.

7 Q. So this is separate.

8 A. Yes.

9 Q. Is this withdrawals, a negative balance from withdrawals of

10 cryptocurrency or of fiat?

11 A. A combination.

12 Q. Okay. And I'll remove that.

13   And now I want to look at copy of Sheet 2.

14   MR. ROOS: And if we could just expand column C, and

15 also column J.

16 Q. And is the copy of Sheet 2 the same as Sheet 2 except it's

17 got this Gary number up there?

18 A. Yes.

19 Q. Okay. All right. But your descriptions of the

20 columns——ID, Name, Value——are otherwise the same?

21 A. Yes.

22   MR. ROOS: Okay. Now, Mr. Bianco, can we sort the

23 name, sort this column by name, A to Z? Thank you.

24 Q. Now you said there was a bug with the fiat; is that right?

25 A. Yes.

1 Q. Does this version of the spreadsheet——by the way, who

2 worked on this version of the spreadsheet?

3 A. This sheet was me, primarily, and then Nishad had——and then

4 Nishad——there's a column where Nishad left some notes.

5 Q. Did this version of the spreadsheet correct for that bug?

6 A. Yes.

7 Q. Where is the correction?

8 A. Line 14.

9 Q. And where is the fiat balance?

10 A. Line 13.

11 Q. And what happens when you add 13 and 14 together?

12 A. You end up with the correct balances for fiat@s.

13 Q. So what was the correct fiat balance in June 2022?

14 A. Around negative $11 billion.

15 Q. So Alameda at this time owed $11 billion in fiat.

16 A. Yes.

17 Q. Okay.

18   THE COURT: And that was owed to FTX; is that correct?

19   THE WITNESS: Yes.

20   THE COURT: Thank you.

21 Q. Now in column J it says "Gary's number." Do you see that?

22 A. Yes.

23 Q. What number was "Gary's number"?

24 A. It's——it's a sum of the——of column C, of all these

25 accounts, except with one of the numbers excluded, 'cause it

1   should not have been included in this sheet.

2   Q.   I'll come back to that in a second.

3   And so is "Gary's number" the total of Alameda's

4   balances in June 2022?

5   A.   On FTX, yes.

6   Q.   On FTX. And what was Alameda's total balances on FTX in

7   June 2022?

8   A.   Approximately negative $11 billion.

9   Q.   And was that Alameda's balances even after fixing that bug?

10 A.   Yes.

11 Q.   Okay. Now you said that there was a number that was

12 included in your total that—there was a number in the balances

13 that shouldn't be included in your total; is that what you

14 said?

15 A.   Yes.

16 Q.   And which number was that?

17 A.   This was for—I think it's—scroll down a bit. It's—there

18 was a—there was—a investment into FTX that went through an

19 Alameda account and didn't have to do with Alameda so then it

20 needed to be excluded from this fee.

21 Q.   Okay. So let's scroll down a little bit. And do you see

22 column 37?

23   MR. ROOS: And could we expand—I'm sorry—row 37 and

24 could we expand column B.

25 Q.   And what is that—what was the balance for that account?

1   A. $1.2 billion.

2   Q.   And what did that account have in it?

3   A.   The investments that FTX received involving this investment

4   rounds.

5   Q.   So it had money from investors.

6   A.   Yes.

7   Q.   And it was being held in an Alameda account.

8   A.   Yes.

9   Q.   Now earlier in your testimony you spoke about Alameda's

10   balances compared to FTX's total revenue. Do you remember

11   that?

12   A.   Yes.

13   Q.   And at this point in June 2022, which was larger, the

14   amount Alameda owed or FTX's revenue?

15   A.   The amount Alameda owed.

16   Q.   What was FTX's revenue around this time?

17   A.   About $1½ billion.

18   Q.   And so Alameda owed about, what, 9½, $10 billion more than

19   that?

20   A.   Yes.

21   MR. EVERDELL: Objection.

22   THE COURT: Overruled.

23   Q.   How, if at all, did the balance then involve the use of

24   customer funds?

25   A.   So the remaining funds that weren't FTX revenue or the

1 | investment, the remaining all came from customers.

2 | Q. Let's scroll back up to where we see "Gary's number."

3 | So the point where customer funds were being used, did

4 | you think that was wrong?

5 | A. Yes.

6 | Q. Why?

7 | A. Because customers did not agree for us to use these funds.

8 | Q. Did you believe FTX or Alameda was allowed to use or spend

9 | these customer funds?

10 | A. No.

11 | Q. Why not?

12 | A. Because we said publicly that we would not use customer

13 | funds like this.

14 | Q. When you say "we," who are you talking about?

15 | A. Sam.

16 | Q. And did you think Alameda could just take the fiat deposits

17 | and loan them to the——loan them to itself?

18 | MR. EVERDELL: Objection, your Honor.

19 | THE COURT: Sustained.

20 | Q. How, if at all, was Alameda allowed to take the deposits?

21 | A. It either kept it in the bank account or converted it into

22 | stablecoin and deposited it back onto FTX.

23 | Q. To what extent was it allowed to loan it to itself?

24 | A. Only during this conversion.

25 | THE COURT: I'm sorry. Repeat your answer, please.

 1   THE WITNESS: Only to do this US dollar-to-stablecoin

 2   conversion and to immediately deposit it back onto FTX.

 3   THE COURT: Thank you.

 4   Q. So just to be clear, what was your understanding about

 5   whether those customer funds could be used to spend on new

 6   investments for Alameda?

 7   A. It was not——it should not happen.

 8   Q. What about on real estate purchases?

 9   A. No.

10   Q. What about on political donations?

11   A. No.

12   Q. What about on other types of donations?

13   A. No.

14   Q. What about on marketing or advertising?

15   A. No.

16   Q. Now after the work on the spreadsheet was done, did you

17   meet with the defendant on the topic of Alameda's balances?

18   A. Yes.

19   Q. How did that meeting happen?

20   A. After I——after I mentioned that the number was——that

21   Alameda's balances as calculated was off by $8 billion because

22   of this bug, and then after the four of us——so him, me,

23   Caroline, and Nishad, to meet with him in one of the offices in

24   the Bahamas office, in one of the meeting rooms in the Bahamas

25   office.

1 Q. And what did you discuss in the meeting?

2 A. So Sam asked me some questions about the bug, and he wanted

3 to make sure that his——my understanding and his understanding

4 of the bug was correct, that it——that it affected the balance

5 in the correction direction, that fixing the balances made it

6 more positive as opposed to more negative. So we talked about

7 that a bit, and then as he——and then afterwards, he turned to

8 Caroline and said that Alameda can go ahead and return the

9 borrows.

10   (The reporter interrupted for clarification)

11 Q. Return the borrows?

12 A. Yes.

13   THE COURT: I'm sorry. I just want to make sure I

14 heard. Said that Alameda can go ahead and return the borrows?

15 Is that what you said?

16   THE WITNESS: Yes.

17   THE COURT: Thank you. Let's go ahead.

18   MR. ROOS: Thank you, your Honor.

19 BY MR. ROOS:

20 Q. In your conversation about the fixing that bug, did you

21 talk about Alameda's negative balances?

22 A. Yes.

23 Q. Including its existing negative balance?

24 A. Yes.

25 Q. And was that before or after the defendant said to Caroline

1 Ellison that they could return the borrows?

2 A. Before.

3 Q. What did you understand "return the borrows" to be a

4 reference to?

5 A. To lenders who loaned Alameda money and were asking for it

6 back.

7 Q. Are these those third-party lenders that you described 30,

8 40 minutes ago—

9 A. Yes.

10 Q. —that Alameda had taken loans from?

11 A. Yes.

12 Q. And so what does "return the borrows" to them mean?

13 A. Means give them back the money that they were asking for

14 back.

15 Q. Do you know how much money Alameda was borrowing from

16 lenders at that point?

17 A. No.

18 Q. Did you have any role in dealing with the lenders?

19 A. No.

20 Q. What was the defendant's involvement in dealing with those

21 lenders?

22 A. He—he gave opinions on how much Alameda could borrow from

23 lenders, how much should be returned to lenders, what interest

24 rates it should accept when taking out loans.

25 Q. Did he mention any specific lenders to be repaid in that

1   meeting?

2   A.   I think he mentioned Genesis.

3   Q.   What's Genesis?

4   A.   It's a crypto lending firm that lends out cryptocurrencies

5   to trading firms.

6   Q.   Your number here for Alameda's balance at this point was

7   negative 11 billion. Where was the money going to come from to

8   repay those lenders?

9   A.   I mean, either from Alameda's FTX account or from Alameda's

10   accounts elsewhere, but either way, the money——all the money

11   came from FTX customers.

12   MR. ROOS: We can take this spreadsheet down.

13   Q.   Let's jump ahead a few months to September 2022. Do you

14   recall another conversation with the defendant, this time about

15   shutting down Alameda?

16   A.   Yes.

17   Q.   Could you describe what led to that conversation.

18   A.   So there was an article that was soon to be published in

19   Bloomberg about the relationship between Alameda and FTX, and

20   he was not happy——Sam sent a Signal chat to Nishad and I with a

21   link to a Google Doc describing shutting down Alameda.

22   Q.   Let me first ask you about that article. You said it

23   related to the relationship between FTX and Alameda. What are

24   you referring to?

25   A.   That they shared an office, that they were owned by the

1 same—by roughly the same set of people, and that they

2 were—and so they weren't entirely separate.

3 Q. What did you believe the article was suggesting?

4 A. That—

5   MR. EVERDELL: Objection.

6   THE COURT: Sustained.

7 Q. Did you and the defendant have any discussions about the

8 implication of the article?

9 A. He said that it would be bad for FTX.

10 Q. Okay. Why is that?

11 A. Because it would cause people to trust FTX less.

12 Q. Now you mentioned that the defendant shared a Google

13 document with you. What was that Google document?

14 A. It was describing some arguments for shutting down Alameda.

15 Q. All right. Why don't we take a look. I'm going to show

16 you what's been marked for identification as Government

17 Exhibit 18.

18   What's this, Mr. Wang?

19 A. This is the Google Doc that Sam shared with us.

20 Q. When you say "us," who are you referring to?

21 A. Nishad and I.

22   MR. ROOS: Government offers Exhibit 18.

23   MR. EVERDELL: No objection.

24   THE COURT: Received.

25   (Government's Exhibit 18 received in evidence)

1   MR. ROOS: May we publish?

2   THE COURT: Yes.

3   BY MR. ROOS:

4   Q.   Mr. Wang, who was the author of this document?

5   A.   Sam was.

6   Q.   And how was it shared with you?

7   A.   Via Google Docs.

8   Q.   Who else was it shared with?

9   A.   Nishad.

10   Q.   Just to be clear, was it shared with Caroline Ellison?

11   A.   No.

12   Q.   I'll ask you a few points in this document.

13   MR. ROOS: Mr. Bianco, could we just flip through the

14   document to see how many pages it is.

15   Q.   So it's a few pages; is that right?

16   A.   Yes.

17   Q.   Okay. We can go back to the top page.

18   So the first reason here listed—it says The Reasons.

19   No. 1. "A PR hit from Alameda and FTX both existing as really

20   large." Do you see that?

21   A.   Yes.

22   Q.   Do you have any conversations with the defendant about

23   that?

24   A.   Yes.

25   Q.   What? What did you discuss?

1   A.   The Bloomberg piece that was soon to come out.

2   Q.   The Bloomberg piece that was going to come out, you said.

3   A.   Yes.

4   Q.   And a little later on here, No. 6, he said, "To the extent

5   there is a niche for a trading firm, that firm should be

6   Modulo."

7   A.   Yes.

8   Q.   What's Modulo?

9   A.   It's another trading firm.

10   Q.   And he notes that it has much stronger culture and

11   leadership than Alameda. Now on Alameda, who was the leader of

12   Alameda at the time?

13   A.   Caroline was.

14   Q.   And did the defendant and Caroline Ellison have any

15   personal relationship?

16   A.   Yes.

17   Q.   What was it?

18   A.   They dated on and off for a couple years.

19   Q.   Okay. Do you know if they were dating at this point?

20   A.   I don't think so.

21   Q.   Now he writes, "Modulo has a much stronger culture and

22   leadership than Alameda." Who was leading Modulo?

23   A.   Two former Jane Street traders.

24   Q.   Who were they?

25   A.   It was Lily and Duncan.

1   Q.   Okay. And what was the defendant's connection to Lily?

2   A.   They were co-workers, and then at one point they dated.

3   Q.   What happened after the defendant shared this Google Doc?

4   A.   We talked about it on Signal some——some more, and then

5   Nishad and I went and talked to Caroline.

6   MR. ROOS: Okay. Now why don't we take this document

7   down.

8   Q.   And I want to break down your answer. You said you spoke

9   over Signal. What's Signal?

10 A.   It's a——it's a chat app, chat application that's——that we

11 used.

12 Q.   What was the name of the Signal document?

13 A.   Hashtag organization.

14 Q.   Okay. And before I ask you further about the Signal chat,

15 by the way, Modulo, did the defendant have any relationship to

16 Modulo?

17 A.   He invested in it.

18 Q.   Okay. He had a financial stake of some form?

19 A.   Yes.

20 Q.   Do you know how much?

21 A.   Around 60 percent.

22 Q.   Now you said you communicated over a Signal chat, after you

23 got this Google document. Who was in that Signal chat?

24 A.   Sam, me, and Nishad.

25 Q.   And what did you discuss?

1 A. We discussed the point in the documents about what it would

2 take to shut down Alameda, and then Sam brought up the question

3 of how much——like what Alameda is currently doing on FTX and

4 how hard it would be to find a replacement for all the things

5 that Alameda is currently doing on FTX, and he asked us what

6 those things were, and then Nishad and I went and——went to talk

7 to Caroline to ask her about what market-making things Alameda

8 is currently doing at FTX.

9 Q. Okay. And after that did there come a time where the four

10 of you——you, the defendant, Nishad Singh, Caroline

11 Ellison——communicated?

12 A. Yes.

13 Q. And how did you communicate?

14 A. On Signal.

15 Q. And was there a particular chat you used?

16 A. Okay. This——this one was I think hashtag organization and

17 the previous chats was a different chat, I think. I got the

18 names mixed up.

19 Q. All right. I'm going to show you now what's been marked

20 for identification as Government Exhibit 542. What's this?

21 A. A screenshot of the #organization chats.

22 　　　　　(Continued on next page)

23

24

25

 1   MR. ROOS: Government offers 542.

 2   MR. EVERDELL: No objection.

 3   THE COURT: Received.

 4   (Government Exhibit 542 received in evidence)

 5   MR. ROOS: May we publish it?

 6   THE COURT: Yup.

 7   Q. Mr. Wang, what are we looking at here?

 8   A. This is a screenshot of the hashtag organization Signal

 9   chats.

10   Q. Who were the people in this chat? It says there are four

11   members.

12   A. Sam, me, Nishad, and Caroline.

13   Q. You were describing a period in September 2022. Do the

14   messages still exist for that time period?

15   A. No.

16   Q. Why not?

17   A. Because they were set to automatically be deleted after a

18   week.

19   Q. Who made that setting?

20   A. Sam.

21   Q. Do you remember what was discussed in this chat?

22   A. We discussed a lot of things over the couple of years that

23   we had these chats about FTX and Alameda.

24   Q. What was discussed in September 2022 around this concept of

25   Alameda being shut down?

1 A.   We discussed what Alameda was doing, the things that

2 Alameda was doing with FTX, and what it would take to find a

3 replacement for those things.

4 Q.   In that conversation, did you discuss how much money

5 Alameda had borrowed?

6 A.   Yes.

7 Q.   What did you discuss?

8 A.   So I asked Caroline how much Alameda was currently

9 borrowing from FTX, and she said 14 billion.

10 Q.   Sorry. 14 billion or 14 million?

11 A.   14 billion with a B, $14 billion.

12 Q.   At the time that Ellison said Alameda was borrowing 14

13 billion, do you recall the defendant responding with any

14 message with surprise?

15 A.   No.

16 Q.   Do you recall the defendant responding with any follow-up

17 questions about the amount?

18 A.   No.

19 Q.   Now, when Alameda Research was borrowing $14 billion, what

20 does that mean its balance was?

21 A.   Negative $14 billion on FTX.

22 Q.   Is there any way that wouldn't involve the use of customer

23 money?

24 A.   No.

25 Q.   Why not?

1 A. Because FTX did not have that much money itself.

2 Q. Did you have any additional conversations with the

3 defendant and Nishad Singh about this?

4 A. Yes.

5 Q. What was discussed?

6 A. So in the three-person chat I brought up that Alameda was

7 borrowing $14 billion from FTX and argued that Alameda could

8 not shut down as a result.

9 Q. Why did Alameda, having borrowed $14 billion, mean that it

10 could not shut down?

11 A. Because it had no way of repaying this.

12 Q. Why couldn't it repay it?

13 A. Because it did not have $14 billion in the assets that it

14 could sell off to repay it.

15 Q. And the defendant was on that chat?

16 A. Yes.

17 Q. Was Alameda shut down?

18 A. No.

19 Q. Let's move ahead to November 2022. Can you describe

20 briefly what happened to FTX in November 2022.

21 A. It declared bankruptcy because customers wanted to withdraw

22 funds, and they could not because FTX ran out of funds.

23 Q. Let's break that down in some more detail.

24   Did there come a time in November 2022 when you

25 learned about an increase in customer withdrawals?

1   A.   Yes.

2   Q.   To orient us, let's take a look at a calendar.

3   Showing you now Government Exhibit 1087, do you

4   recognize this?

5   A.   Yes.

6   Q.   What is it?

7   A.   It's a calendar of November 2022.

8   MR. ROOS: The government offers 1087.

9   MR. EVERDELL: No objection.

10   THE COURT: Received.

11   (Government Exhibit 1087 received in evidence)

12   MR. ROOS: May we publish it?

13   THE COURT: Yes.

14   Q.   Looking at the calendar, Mr. Wang, when did you first learn

15   of an increase in customers withdrawing their money from FTX?

16   A.   Sunday, the 6th.

17   Q.   How did you learn this?

18   A.   Nishad came and knocked on my door and told me there were a

19   large amount of customer withdrawals, and they were getting

20   backed up in the system and asked me to try to speed up with

21   processing of those withdrawals.

22   Q.   Why did you work to speed up the withdrawals?

23   A.   To make people less worried about their withdrawals not

24   being able get processed.

25   Q.   Staying on November 6, did you speak to the defendant that

1   day?

2   A. Yes.

3   Q. What happened?

4   A. So later that day, in the evening, Sam asked Nishad and I

5   to go to his apartment where he told us about the events --

6   which he told us there was some article that was published with

7   a leaked version of Alameda's balance sheets, and this caused a

8   lot of customers to be worried about their deposits on FTX and

9   caused them to all start withdrawing their funds.

10   Q. What do you mean by a leaked balance sheet?

11   A. There was some balance sheet of Alameda that got leaked to

12   some websites, and it was published on some crypto news site.

13   Q. What about the balance sheet do you understand caused

14   concern?

15   A. It showed that a large portion -- that almost all of their

16   assets came from FTT and Serum.

17   Q. What's Serum?

18   A. It's a cryptocurrency that Sam and I and others created.

19   Q. So the balance sheet showed that almost all of Alameda's

20   assets were cryptocurrencies that had been created by you and

21   Sam?

22   A. Yes.

23   Q. What did the defendant say should be done in light of the

24   withdrawals?

25   A. That I should try to speed up the processing of the

1   withdrawals so that people are less worried about their

2   withdrawals not going through, and I should calculate how much

3   additional funds to be deposited onto FTX so that customers can

4   withdraw all of the funds.

5   Q.   Did you work on the project to calculate total balances?

6   A.   Yes.

7   Q.   What did you find when you totaled customer balances for

8   FTX?

9   A.   I totaled -- I added up customer -- customer balances

10 excluding Alameda balances, so non-Alameda customers. So I

11 compared that total with what was in FTX hot wallets and found

12 that they were approximately equal.

13 Q.   When you say FTX hot wallets, you're talking about those

14 cryptocurrency wallets that you talked about earlier?

15 A.   Yes.

16 Q.   What was your reaction to seeing that the balances needed

17 were equal to what FTX had in the wallets?

18 A.   I was surprised because I knew that Alameda was borrowing

19 funds from FTX.

20 Q.   Did you talk to the defendant about it?

21 A.   Yes.

22 Q.   What, if anything, did he say?

23 A.   He asked me if I was including the special Korean accounts,

24 and I asked him what he meant, and he said, are you including

25 our Korean friend.

1 Q. What are you talking about, special Korean account or

2 Korean friend?

3 A. I didn't know what he was talking about, so I asked him

4 what he was talking about. Then Nishad sent me the account ID

5 and said this was the account that the balances in the fiat

6 account -- the fiat FTX account got moved to.

7 Q. After you got that account ID, did you look it up?

8 A. Yes.

9   MR. ROOS: The government offers Exhibit 645 pursuant

10 to stipulation 2002.

11   THE COURT: Received.

12   (Government Exhibit 645 received in evidence)

13   MR. ROOS: May we publish?

14   THE COURT: Yes.

15   Can we zoom in on the user ID and user names.

16 Q. Mr. Wang, do you recognize these?

17 A. Yes.

18 Q. What are these accounts?

19 A. So the last one was the account -- account ID Nishad sent

20 to me. It used to be an Alameda subaccount, but then it was

21 reassociated in the database to fall under Seoyun Charles'

22 account, this seoyuncharles88@gmail.com account.

23 Q. Let me break this down. The user ID on all of these

24 accounts says: User, seoyuncharles88@gmail.com.

25   What does that refer to?

1 A. That refers to which users these accounts and subaccounts

2 were associated with.

3 Q. Then the column user name has Seoyun Charles for three of

4 them and info@alamedaresearch for one of them.

5   Do those refer to?

6 A. Those are the user names of the account or subaccount when

7 it was created.

8 Q. Can you explain what you meant by this

9 info@alameda-research account being reassigned?

10 A. So this account used to be a subaccount of Alameda

11 Research's main account, but then in the database there was --

12 the user ID column of this account was changed so that it was

13 now a subaccount of this other user, Seoyun Charles.

14 Q. There is subaccount FTX_fiat_old.

15 A. Yes.

16 Q. That was reassigned from Alameda over to SeoyunCharles88?

17 A. Yes.

18 Q. What, if anything, does this have to do with the weird

19 Korean account you mentioned?

20 A. So this is the weird Korean account.

21 Q. Had you ever heard of this before November?

22 A. No.

23 Q. Prior to November, had the defendant ever mentioned this to

24 you before?

25 A. No.

1   Q.   Do you know what FTX_fiat_old refers to on here?

2   A.   It refers to -- initially, FTX didn't have its own bank

3   accounts, so it used Alameda bank accounts. But eventually FTX

4   did get its own bank accounts, so USD deposits and withdrawals

5   started going to and from FTX's own bank accounts, as opposed

6   to Alameda's bank accounts.

7   At some point in 2022, we decided to split up the fiat

8   account into separate accounts based on which bank accounts

9   funds are coming to it from. So the funds that were -- that

10   came and went from Alameda accounts, those funds were

11   transferred into a subaccount of Alameda called FTX fiat old.

12   And the funds that -- that came from and went to FTX bank

13   accounts, that remained associated with the fiat@FTX.com

14   account.

15   MR. ROOS: Let's zoom out of here. Let's look at the

16   allow-negative column.

17   Did one of those Seoyun Charles subaccounts have allow

18   negative turned on?

19   A.   Yes.

20   Q.   Which one?

21   A.   The FTX fiat old one.

22   Q.   Did you look up the balance for that account after the

23   defendant told you about the account?

24   A.   Yes.

25   Q.   What was the balance?

1 A. Around negative $8 billion.

2 Q. Did you tell the defendant that?

3 A. Yes.

4 Q. What, if anything, did he say?

5 A. He said that that sounds correct.

6 Q. How would you describe his demeanor at the time?

7 A. He had a neutral demeanor.

8 Q. What was the balance total on the exchange once you

9 included that number?

10 A. Now the exchange was short $8 billion.

11   MR. ROOS: Take this down.

12 Q. Did you speak to anyone about why --

13   THE COURT: Pause, please, for a minute.

14   Earlier -- I am going to go back in my notes -- you

15 talked about, this was as of September, I think, a negative

16 balance of 14 billion, yes?

17   THE WITNESS: Yes.

18   THE COURT: And then you had this conversation about

19 non-Alameda customer balances and FTX hot wallets.

20   What did that amount to?

21   THE WITNESS: That discrepancy was $8 billion.

22   THE COURT: And then the defendant asked you --

23   THE WITNESS: After including -- after excluding this

24 other account.

25   THE COURT: Thank you.

1   Q. Mr. Wang, did you speak to anyone about why this account

2   with a negative $8 billion balance wasn't originally included

3   in all those account calculations?

4   A. Yes.

5   Q. What did you learn?

6   THE COURT: Whom did you speak to?

7   MR. ROOS: Thank you, your Honor.

8   A. Sam and Nishad.

9   Q. What did you learn from them?

10   A. That this was changed from an Alameda subaccount to this

11   other user so that its balances would not be included in the

12   line-of-credit interest payments that Alameda was paying.

13   MR. ROOS: Let's put back up Government Exhibit 1087.

14   Q. What day was that conversation on?

15   A. The evening of the 6th.

16   Q. The negative 8 billion was on the evening of the 6th?

17   A. Yes.

18   MR. ROOS: Let's move the next day, November 7.

19   Q. Did you speak to the defendant that morning about customer

20   balance numbers?

21   A. Yes.

22   Q. And had anything changed in terms of the numbers?

23   A. No.

24   Q. So they were still at negative 8 billion?

25   A. Yes.

1 Q. Did the defendant tweet that day about customer assets on

2 withdrawals?

3 A. Yes.

4   MR. ROOS: The government offers Exhibit 878 pursuant

5 to a stipulation marked as Exhibit 2001.

6   THE COURT: Received.

7   (Government Exhibit 878 received in evidence)

8   MR. ROOS: May we publish it?

9   THE COURT: Yes.

10 Q. Mr. Wang, what are we looking at here?

11 A. It's a set of tweets from the FTX official to the new

12 accounts.

13 Q. Before we go to the substance, it comes from the FTX

14 official account.

15   Do you know whose tweet this is?

16 A. Yes.

17 Q. Whose was it?

18 A. Sam's.

19 Q. How do you know that?

20 A. So it was tweeted right after I talked to him, and the

21 wording from all the tweets matches what I had just told him.

22 Q. What's the date on this?

23 A. November 7.

24 Q. At what time?

25 A. 1:50 a.m.

1   Q.   Was this before or after you told him there was a negative

2   8 billion number?

3   A.   After.

4   Q.   One of these tweets says: BTC withdrawals.

5   What's BTC withdrawals?

6   A.   Bitcoin withdrawals.

7   Q.   BTC withdrawals, churning through them. Node is frequent

8   limited. We are switching it, the process from both ends,

9   which should help speed it up.

10   What does that mean?

11   A.   So it means there were a large number of Bitcoin

12   withdrawals being queued up and the way in which we could

13   process them was limited by the Bitcoin software we were using,

14   and we switched it to processing both the most recent and all

15   these withdrawals at the same time, which had caused recent

16   withdrawals to be processed more quickly.

17   Q.   Then number 3, the beginning says: 3. Stablecoin's

18   processing. Banks are closed for the weekend, though.

19   What's stablecoin?

20   A.   It's a cryptocurrency whose value was tied to U.S. dollars.

21   Q.   This is saying, this particular cryptocurrency processing

22   is slow because banks are closed?

23   MR. EVERDELL: Objection.

24   THE COURT: Sustained.

25   Q.   What's the relationship -- according to the tweet, what's

1 the relationship between banks being closed and stablecoin

2 processing?

3 A.   That stablecoin processing is slow because banks are

4 closed.

5 Q.   Did the defendant's tweet accurately convey the reason for

6 the delay in customer withdrawals?

7 A.   No.

8 Q.   Why not?

9 A.   Because stablecoin withdrawals were slow because FTX had

10 ran out of stablecoins. Even if banks were open, they would

11 still not be able to be processing these.

12   MR. ROOS: Let's take this down and put up Government

13 Exhibit 866. This is in evidence.

14   Can we zoom in on the tweets. Why don't we start with

15 the first tweet here. We can zoom out and zoom in on that

16 first one.

17 Q.   Mr. Wang, have you seen these tweets before?

18 A.   Yes.

19 Q.   Did the defendant discuss with you why he posted these

20 tweets?

21 A.   No.

22 Q.   It's his Twitter account, right?

23 A.   Yes.

24 Q.   It says in this first tweet here: FTX is fine. Assets are

25 fine.

1   Do you see that?

2 A.   Yes.

3 Q.   Was that accurate?

4 A.   No.

5 Q.   Why not?

6 A.   Because FTX was not fine and assets were not fine because

7 FTX did not have enough assets for customer withdrawals.

8   MR. ROOS: Zoom out of this tweet. Let's zoom in on

9 the second number two here.

10 Q.   It says -- his tweet says: FTX has enough to cover all

11 client holdings.

12   Was that true?

13 A.   No.

14 Q.   Why not?

15 A.   Because FTX did not in fact have enough assets to cover all

16 client holdings.

17 Q.   What do you mean by that?

18 A.   Because Alameda had withdrawn a lot of it.

19 Q.   The next line of that tweet right after says: We don't

20 invest client assets, even in treasuries.

21   Was that true?

22 A.   No.

23 Q.   Why not?

24 A.   Because FTX was lending client assets to Alameda.

25   MR. ROOS: Zoom out of this tweet.

 1   Look at the next one. Number 3.

 2   Q. Do you see there at the end it says: We have a long

 3   history of safeguarding client assets and that remains true

 4   today. Was that true?

 5   A. No.

 6   Q. Why not?

 7   A. Because the client assets were with Alameda.

 8   Q. At this point did Alameda have them?

 9   A. No.

10   Q. Where were they?

11   A. Some of it was trading losses. Some of it was spent on

12   investments.

13   MR. ROOS: You can take this down.

14   Q. Did there come a time when the defendant agreed to sell

15   FTX?

16   A. Yes.

17   Q. Who did he say he was going to sell FTX to?

18   A. To CZ, the owner of Binance, another cryptocurrency

19   exchange.

20   Q. Why?

21   A. To get money to fill in the hole left by Alameda.

22   Q. Did that deal go through?

23   A. No.

24   Q. Why not?

25   A. Because CZ pulled out.

1   Q. Did there come a time when the defendant discussed

2   declaring bankruptcy with you?

3   A. Yes.

4   Q. What reason did you discuss with him for declaring

5   bankruptcy?

6   A. That FTX did not have enough money for customer withdrawals

7   and it seemed unlikely that FTX would be able to raise enough

8   money for those withdrawals.

9   MR. ROOS: Let's put up Government Exhibit 1087 again.

10   Q. What day did you have that conversation with him about FTX

11   not having enough money?

12   A. Thursday, the 10th.

13   Q. Did FTX ever declare bankruptcy?

14   A. Yes.

15   Q. When was that?

16   A. On the morning of the 11th.

17   Q. The next morning.

18   A. Yes.

19   Q. Did the defendant remain the CEO of FTX when the company

20   declared bankruptcy?

21   A. No.

22   Q. Let's talk about the day after the bankruptcy declaration.

23   Did there come a time when you transferred FTX

24   customer assets to government officials in the Bahamas?

25   A. Yes.

1   Q. Who told you to send the money to those Bahamas government

2   officials?

3   A. The government officials did, but Sam also did.

4   Q. Let's break that down in a little more detail.

5   First, I want to direct your attention to November 12,

6   the Saturday. Was there a time when the defendant asked you to

7   drive with him to the Bahamas Securities Commission?

8   A. Yes.

9   MR. EVERDELL: Objection.

10   THE COURT: What's the ground?

11   MR. EVERDELL: Leading.

12   THE COURT: Overruled.

13   Q. What is the Bahamas Securities Commission?

14   A. It's a regulator in the Bahamas that regulates FTX.

15   Q. Did you have a discussion with the defendant during the

16   drive?

17   A. Yes.

18   Q. During that drive, did the defendant say anything to you

19   about what you should do with customer assets?

20   A. That ideally we should transfer them to the Bahamas

21   liquidators or the Bahamas regulators.

22   Q. Did he say why you should transfer the customer assets that

23   remained in the Bahamas?

24   A. Because earlier that day we had met with liquidators in the

25   Bahamas, and they seemed friendly and seemed willing to let him

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1 stay in control of the company.

2 Q. By the way, at this point were customers able to take their

3 money off the exchange at this point?

4 A. No.

5 Q. Why not?

6 A. So, for one, FTX had ran out of money for customers to

7 withdraw, and, two, on the evening of the 11th, all the servers

8 that ran FTX were shut down.

9 Q. What happened once you got to the Bahamas Securities

10 Commission?

11 A. Sam and his lawyers and his dad went and met with Bahamian

12 regulators.

13 Q. Where were you?

14 A. I was waiting outside, along with consultants for the

15 liquidators, and they asked me some questions about the

16 logistics of how to do the transfers from FTX's wallets.

17 Q. After the defendant's meeting with the Bahamas government

18 officials, did he tell you about how it went?

19 A. Yes.

20 Q. What did he say?

21 A. He said that the meeting went well. He said that the

22 securities commissioner believed to think things he told her

23 and that they were going to order us to transfer the assets --

24 the remaining assets to the Bahamas.

25 Q. Where did you go after that?

1   A.   After that, we drove back to the office.

2   Q.   During that drive back, did the defendant say anything to

3   you?

4   A.   He said that -- also at this point the U.S. side was asking

5   me to finish transferring the remaining assets to the U.S., and

6   Sam told me that we should try to stall them.

7   Q.   When you said the U.S. side, who are you referring to?

8   A.   The bankruptcy lawyers that had taken over FTX and FTX.US,

9   and they are from within the U.S.

10   Q.   Who was the defendant saying should be stalled?

11   A.   The lawyers from the U.S.

12   Q.   Now, what happened when you got back to the office?

13   A.   It took a while for the Bahamian regulators to figure out

14   how to do the transfer. Eventually, they figured it out and

15   ordered us to do the transfer.

16   Q.   While you were transferring the money, did you get any

17   instructions from a U.S. bankruptcy team?

18   A.   Yes.

19   Q.   Who in particular?

20   A.   I'm blanking on the name.

21   Q.   Why don't we do this.

22   MR. ROOS: I am going to show the witness what's been

23   marked as Government Exhibit 543.

24   Q.   Do you recognize this?

25   A.   Yes.

1   Q. What is it?

2   A. It's screenshot of a Signal chats.

3   MR. ROOS: The government offers Government Exhibit

4   543.

5   THE COURT: Received.

6   (Government Exhibit 543 received in evidence)

7   MR. ROOS: May we publish it?

8   THE COURT: Yes.

9   MR. ROOS: Let's just zoom into the very top of the

10 signal chat.

11 Q. This is called small group chat.

12   Do you see that?

13 A. Yes.

14 Q. What was the small group chat, Signal chat?

15 A. Contained a number of people who were still at the company

16 at this point, so me, Sam, Nishad, and Caroline, some lawyers

17 from the U.S. bankruptcy team and a few other people.

18   MR. ROOS: Now, let's zoom out on this part and zoom

19 in on the defendant's message and the parts below it.

20 Q. Just starting on the defendant's message, is that the one

21 in gray?

22 A. Yes.

23 Q. Are you familiar with a lawyer named Ryne Miller?

24 A. Ryne Miller, yes.

25 Q. Who was he?

1 A.   He was the lawyer for FTX US.

2 Q.   Whose messages are in blue?

3 A.   Ryne Miller.

4 Q.   The defendant writes here: The SCB. What's that?

5 A.   Securities commissioner of the Bahamas.

6 Q.   The SCB, Christina Rolle, is directing us to transfer the

7 assets to a custodian in their name. They say we're doing so

8 to protect the interest of creditors and clients of FTX digital

9 markets and other entities that might be commingled. We are

10 being directed to do so.

11   Did you see that message around that time?

12 A.   Yes.

13 Q.   Then there is a blue response. This is a significant

14 question of who owns the assets. FDM does not.

15   What is FDM?

16 A.   FTX digital markets. It's FTX's entity in the Bahamas.

17 Q.   Because we will need to have a discussion with her and

18 SullCrom. What's SullCrom?

19 A.   It's --

20   MR. EVERDELL: Objection, your Honor. Hearsay.

21   THE COURT: What is Sulcrom does not call for hearsay,

22 as far as I know.

23   Do you know what Sulcrom means, sir?

24   THE WITNESS: Yes.

25   THE COURT: What?

1   THE WITNESS: Sulcrom is one of the law firms that FTX

2   hired.

3   Q. You see the next part says: Cannot transfer any funds that

4   are the subject of the bankruptcy estate, i.e., assets owned by

5   FTX Trading LTD, WRSS, WRS Alameda, etc.

6   What's WRSS and WRS?

7   A. West Realm Shires Services and WRS is West Realm Services.

8   They are entities for FTX US.

9   Q. Now, it says in the next sentence: These are all not

10   assets of the Bahamian entity, including, i.e., the Robin Hood

11   shares which essentially roll up under Alameda. Before folks

12   transfer to the Bahamas, absolutely consult with me, and I'll

13   bring in the appropriate counsel.

14   Did you see those two messages at the time?

15   A. Yes.

16   Q. Did you talk to the defendant about them?

17   A. Yes.

18   Q. What did he say you should do in response to the direction

19   not to transfer any funds?

20   A. That I should ignore the instructions and continue

21   transferring funds.

22   Q. Did you do that?

23   A. Yes.

24   Q. What did the defendant tell you about why he wanted the

25   money to go to the Bahamas regulators?

1 A. He said they are more likely -- they seemed more friendly

2 to him, and they seemed more likely to let him stay in control

3 of the company, compared to the U.S.

4   MR. ROOS: We can take that down.

5   Put up the calendar again, 1087.

6 Q. Mr. Wang, what day did that happen?

7 A. Saturday, the 12th, leading into the early morning of the

8 13th.

9 Q. Did there come a time -- so it's here. Did there come a

10 time when you returned to the United States and met special

11 agents with the FBI and federal prosecutors?

12 A. Yes. I returned to the U.S. on the 16th -- on Wednesday,

13 the 16th and met with the government on the 17th.

14 Q. So here?

15 A. Yes.

16 Q. How many days passed between FTX's bankruptcy and when you

17 came in and met with the government?

18 A. Six days.

19 Q. What was the date of the bankruptcy?

20 A. Friday, the 11th.

21 Q. Here, so these days, is that right?

22 A. Yes.

23 Q. Now, when you came in and met with the government, had you

24 been arrested or charged with any crimes?

25 A. No.

1 Q. Did you tell the FBI and federal prosecutors you want to

2 cooperate?

3 A. Yes.

4 Q. Why?

5 A. Because, one, because it seemed like the right thing to do

6 and, two, to try to get a shorter -- because I thought it was

7 likely I was going to be charged, so I wanted to get a

8 shorter -- trying to avoid a prison sentence.

9 Q. Had you been charged at that point?

10 A. No.

11 Q. Did you say you wanted to cooperate on that first meeting?

12 A. Yes.

13 Q. Did there come a time when you in fact pled guilty to

14 crimes?

15 A. Yes.

16 Q. In general, what crimes did you plead guilty to?

17 A. Wire fraud, commodities fraud, and securities fraud.

18 Q. In total, how many felonies did you plead guilty to?

19 A. Four.

20 Q. Was that plea based on the criminal activity you have

21 described over the last two days?

22 A. Yes.

23 Q. When you were committing the activities you testified

24 about, did you know what you were doing was wrong and illegal?

25 A. Yes.

1   Q.   Did you plead guilty to any conspiracies?

2   A.   Yes.

3   Q.   Who were the people that you conspired with?

4   A.   Sam, Caroline, and Nishad.

5   Q.   And with respect to those securities charges, you pled

6   guilty to those?

7   A.   Yes.

8   Q.   When was your guilty plea?

9   A.   In December 2022.

10   Q.   How long after the bankruptcy -- how long between then and

11   when you had pled guilty?

12   A.   A month.

13   Q.   Are you testifying here because of an agreement you have

14   with the United States?

15   A.   Yes.

16   MR. ROOS: Can you pull up for identification 3585-30.

17   Q.   Mr. Wang, do you recognize this document?

18   A.   Yes.

19   Q.   What is it?

20   A.   It's cooperation agreement I signed with the government.

21   MR. ROOS: Let's go to the last page.

22   Q.   Is that your signature?

23   A.   Yes.

24   MR. ROOS: The government offers 3585-30.

25   THE COURT: Received.

1   MR. EVERDELL: No objection.

2   (Government Exhibit 3585-30 received in evidence)

3   MR. ROOS: May we publish it?

4   THE COURT: Yes.

5   MR. ROOS: Let's go back to the first page,

6   Mr. Bianco.

7   Q. Mr. Wang, that is your cooperation agreement?

8   A. Yes.

9   Q. How many pages is it?

10 A. Six.

11   MR. ROOS: Let's go to the second page. Let's go back

12 to the first page.

13 Q. Are those the crimes that you pled guilty to listed on the

14 first page?

15 A. Yes.

16   MR. ROOS: Let's go to the second page.

17 Q. I want to focus here on what your obligations are, what

18 your understanding is of your obligations under the cooperation

19 agreement. What do you understand that you have to do?

20 A. That I would need to meet with the government and answer

21 their questions truthfully, tell them anything I know, give

22 them access to any devices or records that I have, that I would

23 not commit any other crimes, that I would testify if asked to

24 on behalf of the government, and tell the truth.

25 Q. Let me ask you, did you meet with the government?

1 A. Yes.

2 Q. How many times?

3 A. About a dozen.

4 Q. Could be more?

5 A. Yes.

6 Q. During those meetings, what happened?

7 A. The government asked me questions, and then I truthfully

8 answered them.

9 Q. Did you ever talk about the defendant in any of those

10 meetings?

11 A. Yes.

12 Q. What about other people?

13 A. Yes.

14 Q. Did you ever have any meetings just focused on computer

15 code?

16 A. Yes.

17 Q. You're testifying here pursuant to your cooperation

18 agreement you said, is that right?

19 A. Yes.

20 Q. What obligation does your agreement impose about your

21 testimony here today?

22 A. That I must be truthful.

23 Q. If you satisfy your obligations under this agreement, what

24 is your understanding of what the government will do?

25 A. The government will write a letter to the judge, a 5K

1   letter, telling them the way in which I have been helpful.

2   Q. What's a 5K letter?

3   A. It's a letter that the government writes to the judge

4   before I get sentenced that describes my conduct.

5   Q. When you say your conduct, does it describe the bad things

6   you've done?

7   A. Yes.

8   Q. What about the cooperation, does it describe those things?

9   A. Yes.

10 Q. What is your understanding about whether the government

11 makes any recommendation about your sentencing in that letter?

12 A. It does not.

13 Q. Who gets that letter?

14 A. The judge.

15 Q. If you were to violate your agreement by not telling the

16 truth, what do you understand would happen to your agreement?

17 A. The agreement would have no effect, that it would

18 effectively be torn up.

19 Q. Have you been sentenced yet for the crimes you pled guilty

20 to?

21 A. No.

22 Q. What's the maximum sentence you could face?

23 A. Fifty years.

24 Q. Have you received any promises about the sentence you are

25 going to get?

1   A.   No.

2   Q.   Is it fair to say you hope to get a lesser sentence?

3   A.   Yes.

4   Q.   Sitting here today, what sort of sentence are you hoping

5   for?

6   A.   Ideally, no prison time.

7   Q.   Just to be clear, before you're sentenced, you expect the

8   government to submit a 5K letter, is that right?

9   A.   Yes.

10   Q.   And you said it could have good things and bad things,

11   right?

12   A.   Yes.

13   Q.   You want the 5K letter, right, though?

14   MR. EVERDELL: Objection.

15   THE COURT: Overruled.

16   Q.   You want the 5K letter, right?

17   A.   Yes.

18   Q.   Why is that?

19   A.   Because it would be helpful during sentencing.

20   Q.   Do you understand that the government will make a specific

21   sentencing recommendation?

22   A.   No.

23   Q.   Sorry. Just to be clear about my question, which was not

24   clear, will the government, based on what you know, make a

25   specific sentencing recommendation?

1   A.   No.

2   Q.   It will not?

3   A.   It will not.

4   Q.   Does your getting a 5K depend on the outcome of this trial?

5   A.   No.

6   Q.   What matters most?

7   A.   Telling the truth.

8   MR. ROOS: No further questions.

9   THE COURT: Thank you.

10   Cross-examination.

11   You may proceed.

12   CROSS-EXAMINATION

13   BY MR. EVERDELL:

14   Q.   Good afternoon, Mr. Wang.

15   I would like to discuss with you some of the different

16   business relationships that Alameda had with FTX.

17   A.   OK.

18   Q.   You said that Alameda served as a market maker on the FTX

19   exchange, correct?

20   A.   Yes.

21   Q.   Market makers make offers to buy and sell a particular

22   asset at a certain price, is that right?

23   A.   Yes.

24   Q.   They ensure that there is always an available buyer or

25   seller of a certain asset?

1 A. Yes.

2 Q. They provide liquidity and make the trades on the exchange

3 flow smoothly?

4 A. Yes.

5 Q. Exchanges like FTX rely on market makers to provide that

6 liquidity, right?

7 A. Yes.

8 Q. Alameda was I think the very first market maker on FTX, is

9 that right?

10 A. Yes.

11 Q. And for a period of time when FTX began operating, in 2019,

12 it was the only market maker, wasn't it?

13 A. Yes.

14 Q. That meant that at the beginning Alameda was on one side or

15 the other of almost all trades on FTX, is that right?

16 A. For a short while, yes.

17 Q. And Alameda's role as a market maker on FTX was described

18 in documents that FTX put out to the public, right?

19 A. Yes.

20 Q. Alameda did not remain the only market maker on FTX,

21 correct?

22 A. Correct.

23 Q. In fact, it was always the goal to attract other market

24 makers to FTX so that Alameda wasn't the only one?

25 A. Yes.

1 Q.   And by 2022, there were many market makers besides Alameda,

2 right?

3 A.   Yes.

4 Q.   Now, one thing that Alameda did as a market maker was it

5 facilitated access to stablecoins, is that right?

6 A.   Yes.

7 Q.   You mentioned stablecoin is just a cryptocurrency that's

8 pegged to an asset, right?

9 A.   Yes.

10 Q.   If FTX didn't have enough of a particular stablecoin on

11 hand to satisfy a customer's withdrawal request, Alameda would

12 go out and purchase that stablecoin and satisfy the customer's

13 withdrawal, right?

14 A.   Yes.   Either purchase it or go through the stablecoin

15 issuer by depositing dollars to a stablecoin issuer and getting

16 back the stablecoin.

17 Q.   Another service that Alameda performed is a market maker

18 was providing FTX customers with access to new

19 cryptocurrencies, right?

20 A.   Yes.

21 Q.   New cryptocurrencies are created all the time?

22 A.   Yes.

23 Q.   So FTX customers might want to be able to buy those new

24 coins on the exchange?

25 A.   Yes.

1   Q.   So Alameda would submit offers for those new tokens before

2   they were officially listed?

3   A.   At the same time it's being listed, yes.

4   Q.   Simultaneous with their listing?

5   A.   Yes.

6   Q.   And FTX customers could start trading on those tokens

7   immediately when they were available for sale on FTX?

8   A.   Yes.

9   Q.   I think you mentioned backstop liquidity providers in your

10 testimony, right?

11 A.   Yes.

12 Q.   Alameda also served as a backstop liquidity provider on

13 FTX, is that right?

14 A.   Yes.

15 Q.   Backstop liquidity providers agreed to buy assets that are

16 held by users whose accounts are losing too much money, right?

17 A.   Yes.

18 Q.   And that protects the rest of the FTX customers from

19 incurring losses, right?

20 A.   Yes. As well as FTX itself.

21 Q.   And FTX itself?

22 A.   Yes.

23 Q.   The liquidity provider will step in to purchase those

24 assets of the failing customer?

25 A.   Yes.

1   Q. And Alameda was not the only backstop liquidity provider on

2   the FTX exchange?

3   A. Yes, correct, it was not the only one.

4   Q. But Alameda did agree to buy the assets even if other

5   backstop liquidity providers could not?

6   A. Correct.

7   Q. So the backstop liquidity provider of last resort, correct?

8   A. Yes. Not only a last resort, but also last resort, yes.

9   Q. But they would agree to step in if nobody else could buy

10 the assets?

11 A. Yes.

12 Q. Now, let me ask you about some of the things you testified

13 about.

14   You testified about certain, I think you called them

15 special privileges that Alameda had on FTX, is that right?

16 A. Yes.

17 Q. And they were coded into the code base?

18 A. Yes.

19 Q. And you were one of the people who did that coding, you

20 said?

21 A. Yes.

22 Q. And Nishad was another?

23 A. Yes.

24 Q. One of them you talked about was the allow-negative

25 function, is that right?

1   A.   Yes.

2   Q.   I think you said that allowed customers to withdraw even

3   beyond their balance, right?

4   A.   Yes.

5   Q.   It even allowed the balance to go negative if need be,

6   right?

7   A.   Yeah, if it's enabled to the new accounts.

8   Q.   And I think you said that that flag was coded into the

9   database sometime in 2019?

10   A.   Yes.

11   Q.   And it was applied to Alameda's accounts also in 2019?

12   A.   Yes.

13   Q.   Now, you, I think, testified that the feature allowed

14   Alameda to withdraw funds, regardless of the amount of funds in

15   its account, right?

16   A.   Yes.

17   Q.   And it allowed Alameda to carry a negative balance?

18   A.   Yes.

19   Q.   Now, isn't it true that the reason this feature was

20   implemented was to facilitate Alameda's market-making

21   functions?

22   A.   It was for paying for its expenses and for doing stablecoin

23   conversions.

24   Q.   As we discussed, those stablecoin conversions were part of

25   Alameda's market-making functions.

1   A.   The stablecoin conversions wasn't really market making per

2   se.   It was for facilitating customers' money to do a deposit

3   and withdrawal, different forms of stablecoins for USD.

4   Q.   Mr. Wang, do you recall discussing this topic with the

5   prosecutors, the allow-negative function?

6   A.   Yes.

7   Q.   In particular, do you recall speaking to the prosecutors on

8   November 17?

9   A.   Yes.

10   Q.   That was one of the first times you spoke to the

11   prosecutors?

12   A.   Yes.

13   Q.   And do you recall at that time being asked about the

14   allow-negative function?

15   A.   Yes.

16   Q.   Isn't it true that at that meeting there were the -- the

17   prosecutors were there, right?

18   A.   Yes.

19   Q.   And the FBI agents were there, correct?

20   A.   Yes.

21   Q.   And you there as well of course?

22   A.   Yes.

23   Q.   And you were proffering to the government at that meeting,

24   right?

25   A.   Yes.

1   Q.   This was your attempt --

2   THE COURT: Could we get to the point.

3   MR. EVERDELL: Yes, your Honor.

4   Q.   Isn't it true, Mr. Wang, that at that meeting you told the

5   prosecutors that the allow-negative flag was added to Alameda

6   as part of their role as a market maker?

7   A.   I don't remember exactly what words I said.

8   Q.   Let's see if we can refresh your recollection.

9   MR. EVERDELL: Let's put up on the screen, if we

10   could, what's been marked for identification as 3585-009. This

11   is just for the witness. Go to page 3 and blow up the last

12   paragraph.

13   Q.   If we could read the first sentence, Mr. Wang.

14   THE COURT: To yourself.

15   MR. EVERDELL: To yourself.

16   A.   OK.

17   Q.   You've read it?

18   A.   Yes.

19   Q.   Does that refresh your recollection about whether you told

20   the prosecutors at your meeting on November 17 that the

21   allow-negative flag was added to Alameda as part of their role

22   as a market maker?

23   A.   I mean -- I don't remember if I said exactly this or not.

24   Q.   You don't remember whether you said it or not?

25   A.   No.

1   Q.   Is it true that that's what's said there?

2   MR. ROOS: Objection.

3   THE COURT: Sustained.

4   And don't do that again, Mr. Everdell.

5   MR. EVERDELL: Yes, your Honor.

6   We will take that down.

7   THE COURT: The jury will disregard that question.

8   Q.   You also, I think, spoke to the prosecutors again on August

9   31, isn't that right?

10 A.   Yes.

11 Q.   And were you -- I believe you were again asked about the

12 allow-negative flag at that meeting as well?

13 A.   Yes.

14 Q.   And isn't it true that at that meeting you also told the

15 prosecutors that the allow-negative flag was there because it

16 was necessary from when you converted between stablecoins and

17 that this was a part of Alameda's market-making functions?

18 A.   I don't remember if I used the words market-making

19 functions or not, but I definitely did say the first parts.

20 Q.   You said the first part, but you don't recall saying that

21 it was part of their market-making functions?

22 A.   I may well have, but I don't remember.

23 Q.   Let me see if I can refresh your recollection.

24   MR. EVERDELL: If we can pull up please what's been

25 marked for identification as 3585-025.

1   If we could go to page 7 of that document, the bottom,

2   the second paragraph.

3   Q.   If you could read that to yourself, Mr. Wang.

4   A.   Yes.

5   Q.   Does that refresh your recollection about whether or not

6   you told the prosecutors, on August 31 of 2023, that in order

7   to do a stablecoin conversion that it was -- that the

8   allow-negative flag was necessary for that and that this was

9   part of Alameda's market-making function?

10   MR. ROOS: Objection. Compound.

11   THE COURT: Sustained. Form.

12   MR. EVERDELL: I'll break it up.

13   Q.   Do you recall saying to the government -- does it refresh

14   your recollection that you told the government that the

15   allow-negative flag was necessary for converting between

16   stablecoins?

17   A.   Yes.

18   Q.   And does it refresh your recollection that you also told

19   the government that this was part of Alameda's market-making

20   function?

21   A.   I don't know if I used those exact words or not. I may

22   have said market making. I may have also said for the

23   functionality of the exchange.

24   MR. EVERDELL: Take that down.

25   Q.   Being able to go negative was necessary so that Alameda

1   could satisfy stablecoin requests, isn't that right?

2   A.   Yes.

3   Q.   To provide stablecoins to customers, Alameda sometimes had

4   to withdraw one stablecoin from the exchange and convert it to

5   another and then put the new stablecoin back onto the exchange,

6   right?

7   A.   Yes.

8   Q.   And to do that Alameda sometimes had to go negative in its

9   balance, is that right?

10 A.   Yes.

11 Q.   And Alameda wasn't the only customer that could go negative

12 in a particular coin, isn't that right?

13 A.   I'm sorry. Can you repeat that question.

14 Q.   FTX is a margin exchange, isn't that right?

15 A.   Yes.

16 Q.   So customers that are engaging in margin trading have to go

17 negative in particular coins when they borrow things that they

18 don't have, correct?

19 A.   If they have spot margin enabled, yes.

20 Q.   If they have spot margin enabled, and they borrow an asset

21 that they don't have, they will go negative with the coins, is

22 that right?

23 A.   Yes.

24 Q.   Now, I'll return to that in a minute, but I want to get to

25 another function that you discussed.

1   One of the other special privileges you discussed was

2   the line of credit, correct?

3   A.   Yes.

4   Q.   You said that at one point Alameda had a $65 billion line

5   of credit?

6   A.   Yes.

7   Q.   And you said that that allowed Alameda to effectively

8   borrow unlimited amounts of -- from the FTX exchange because it

9   had unlimited collateral, right?

10 A.   Yes.

11 Q.   Isn't it also true that the line of credit?

12   THE COURT: I'm sorry. Excuse me.

13   Because it had unlimited collateral?

14   THE WITNESS: It has the $65 billion of collateral so

15 it could -- because it had that and it also had the

16 can-withdraw-below-borrow column set on their accounts. In

17 addition to being able to withdraw because of allow negative,

18 they could also withdraw a large amount of funds because they

19 had the line for the -- in addition to having the

20 allow-negative flag sets, which would allows them to drop

21 funds, they also had the large line of credit, and they had the

22 can-withdraw-below-borrow flags set under accounts.

23   THE COURT: When you referred to collateral a minute

24 ago, it was to the line of credit, is that right?

25   THE WITNESS: Yes.

1   THE COURT: Go ahead.

2 Q. The line of credit could function as collateral, right?

3 A. Yes.

4 Q. Now, that large line of credit that you discussed was also

5 originally provided for a market-making purpose, is that

6 correct?

7 A. Yes.

8 Q. As a primary market maker, Alameda had to act as the buyer

9 in a lot of trades, as we discussed, right?

10 A. Yes.

11 Q. That meant it often had to borrow funds on margin to make

12 purchases as its function as a market maker?

13 A. Well, it wasn't borrowing on margin because it did not have

14 spot margin enabled, so it could not be borrowing spot tokens.

15 Q. But it did have to make a number of trades on a day-to-day

16 basis as a market maker?

17 A. Yes.

18 Q. And if it was making so many trades as the primary market

19 maker, it might exceed the collateral it had posted if it were

20 making so many trades?

21 A. If they were all going in one direction, yes.

22 Q. I think you testified about some conversations that you had

23 with Sam about this issue, right, about the size of the line of

24 credit?

25 A. Yes.

1 Q. I think you said that originally you -- it needed to be

2 increased, right, as things -- as time went on?

3 A. Yes.

4 Q. And at first it started with smaller amounts, right?

5 A. Yes.

6 Q. Maybe in the size of a million or so, right?

7 A. Yes.

8 Q. And then you'd hit that limit, correct?

9 A. Yes.

10 Q. So you have to increase it again?

11 A. Yes.

12 Q. And there were a couple of these iterations where it hit

13 the limit, isn't that right?

14 A. Yes.

15 Q. And so, ultimately, Sam asked you to increase the limit so

16 that this wouldn't happen again, right?

17 A. Yes.

18   (Continued on next page)

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1   BY MR. EVERDELL:

2   Q. Okay. And so you said that the number eventually picked

3   was 65 billion; is that right?

4   A. Well, the first——the first time, we picked a number so high

5   that it would never be hit, that kind of number was picked was

6   1 billion, and then it was hit again, and then the number

7   picked was 65 billion.

8   Q. Okay. But the goal of doing this was simply to get to a

9   point where it wouldn't——it wouldn't impact the trading

10   activity, right?

11   A. It would not impact Alameda placing orders on the exchange

12   for market making.

13   Q. In its role as a market maker, right?

14   A. Yes.

15   Q. And you don't recall who picked the 65 billion number, do

16   you?

17   A. It was——I mean, it was one of the two of us.

18   Q. Okay. But in fact, the amount of Alameda's actual

19   borrowing on the exchange for itself never reached 65 billion,

20   right?

21   A. Correct.

22   Q. Okay. So that was just sort of a notional number to make

23   sure that this problem of butting up against the ceiling didn't

24   happen again, right?

25   A. Yes.

1   Q.   And what was more typical for Alameda in terms of the

2   amount of borrowing against the line of credit?

3   A.   Well, do you mean the amount that it was actually borrowing

4   or owning the——also including open orders and being used for

5   those?

6   Q.   Including open orders.

7   A.   Including open orders, I'm not sure. I wasn't keeping

8   track of the total size of Alameda open orders.

9   Q.   Okay. All right. Now you also——I'll come back to that one

10   as well.

11   I just want to talk briefly to you about the exemption

12   from auto-liquidation, okay?

13   A.   Yes.

14   Q.   Okay. I think you testified that Alameda would not be

15   liquidated; is that right?

16   A.   Yes.

17   Q.   Okay. And I think you said that, you know, if certain

18   situations arise and there's enough of a negative balance, that

19   there would normally be a customer liquidation, right?

20   A.   Yes.

21   Q.   But that would not happen with Alameda, right?

22   A.   Correct.

23   Q.   Because of the way the coding worked, right?

24   A.   Correct.

25   Q.   Okay. So the exemption from auto-deletion, again, was

1   originally for a market-making purpose, wasn't it?

2   A.   The—for what?

3   Q.   For a market-making purpose.

4   A.   What purpose was for market making?

5   MR. EVERDELL: I'm sorry. One moment.

6   Q.   I meant to say auto-liquidation. I misspoke. Originally

7   the auto-liquidation feature was for market-making purposes,

8   right?

9   A.   The automatic liquidation system on FTX?

10 Q.   Yes.

11 A.   Well, it was for—it was to protect customers from

12 clawbacks.

13 Q.   Let me rephrase the question.

14   The exemption from the auto-liquidation that Alameda

15 had was originally to serve its market-making purpose, right?

16 A.   So the exemption had a few purposes. One was to prevent

17 Alameda from losing money if its position was all liquidated at

18 once; and two, it was also to protect the market from giant

19 price movements caused by Alameda's giant position being

20 liquidated.

21 Q.   Let's talk about the first one now. It was to protect the

22 exchange. And it's true that, as we discussed, Alameda was a

23 backstop liquidity provider, right, of last resort, right?

24   MR. ROOS: Objection, compound.

25 Q.   Right?

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1   THE COURT: Sustained, form.

2   Q. Sure. Alameda functioned as a backstop liquidity provider,

3   right?

4   A. Yes.

5   Q. And it had to act as a buyer in a lot of trades for that

6   reason, right?

7   A. Buyer? I mean, liquidated—sometimes people would get

8   liquidated and sometimes Alameda would provide the liquidation.

9   Q. And sometimes it was the only market maker that was willing

10   to make those purchases to effect the liquidation, right?

11   A. Yes.

12   Q. And if Alameda were liquidated, it's possible that FTX

13   would run out of buyers in a liquidation scenario, right?

14   A. Yes.

15   Q. Okay. And if that happened, there would be risk then that

16   other customers would have to buy assets that they had not

17   signed up to buy, right?

18   Let me see if I can rephrase. If Alameda wasn't

19   willing to buy up the liquidation assets and nobody else was

20   willing to, then the assets might have to be spread to the

21   other customers on the exchange and they would suffer a loss,

22   right?

23   A. I think it's not true for spots, for spot assets. I think

24   that is true for futures, yes.

25   Q. Okay. But if Alameda were liquidated, they couldn't serve

1 that function, right?

2 A. Yes.

3 Q. Okay. And in fact, they——I don't think they were the only

4 customer that was exempted from auto-liquidation, right?

5   THE COURT: The question is you don't think that?

6 Rephrase the question.

7   MR. EVERDELL: Sure.

8 Q. Alameda wasn't the only customer on FTX to be exempted from

9 auto-liquidation, right?

10 A. Well, other accounts were manually liquidated.

11 Q. Okay. I'll move on.

12   MR. EVERDELL: One moment, your Honor.

13 Q. Sorry. One further question about the line of credit we

14 talked about before.

15 A. Okay.

16 Q. That was for Alameda's info@ account, correct?

17 A. Yes.

18 Q. That was I think account No. 9 that you talked about

19 before?

20 A. Yes.

21 Q. Okay. And you said that was Alameda's main trading

22 account, right?

23 A. Yes.

24 Q. Okay. All right. Now you testified also that one of the

25 other features was that Alameda had a bit faster trading; is

1   that right?

2   A.   Yes.

3   Q.   Okay.   And that was I think the result of not having to go

4   through a program called Cloudflare, right?

5   A.   Yes.

6   Q.   Okay.   Cloudflare is designed to prevent fraudulent logins,

7   right, of people getting onto the exchange?

8   A.   Primarily it was used for—it was used for a few things.

9   It was used to prevent DDoS attacks, so to protect against

10   distributed denial-of-service attacks, where malicious users

11   would try to—would try to disrupt FTX by sending large number

12   of requests from different computers to try to take down FTX.

13   Q.   Okay.   Well, so Cloudflare served a security function,

14   right?

15   A.   Yes.

16   Q.   Okay.   And if you had to go through Cloudflare, that might

17   slow it down a tiny fraction, right?

18   A.   A few milliseconds, yes.

19   Q.   Okay.   But because Alameda was a trusted party, they didn't

20   have to use Cloudflare, right?

21   A.   Yes.

22   Q.   Okay.   And FTX trusted Alameda not to, you know, violate

23   the terms of the exchange, right?

24   MR. ROOS: Objection.

25   THE COURT: Sustained.

1   Q.   Well, it didn't—it didn't feel like it needed to have

2   Alameda use Cloudflare.

3   MR. ROOS: Same objection.

4   THE COURT: Sustained.

5   Q.   All right.   Well, as of October 2022, there were other

6   customers who could bypass Cloudflare too, right?

7   A.   Yes.

8   Q.   Okay.   So Alameda wasn't the only customer who could do

9   this.

10 A.   "This" being bypass Cloudflare or having slightly faster

11 auto-executions?

12 Q.   Bypass Cloudflare.

13 A.   Yes.

14 Q.   Okay.   I'm going to return to those in a bit, but I'm going

15 to move on to something different, okay?

16 A.   Okay.

17 Q.   All right.   I want to talk briefly about Alameda's role as

18 a customer on FTX, okay?

19 A.   Okay.

20 Q.   All right.   You just said that Alameda had a trading

21 account on FTX?

22 A.   Yes.

23 Q.   And its primary trading account was called the info@

24 account, right?

25 A.   Yes.

1   Q. Okay. And Alameda engaged in margin trading on FTX?

2   A. Did not—well, the main account did not engage in spot

3   margin trading. They traded futures.

4   Q. But there were—Alameda had dozens or hundreds of

5   subaccounts, didn't it?

6   A. Yes.

7   Q. Okay. And some of those subaccounts had margin trading

8   enabled.

9   A. Yes.

10   Q. So those subaccounts engaged in margin trading on FTX.

11   A. Well, those subaccounts—so there were a few subaccounts

12   involved in this. One of them had "Allow Negative" sets and

13   another subaccount had small-margin lending enabled, and assets

14   were transferred from the "Allow Negative" subaccount to the

15   spot margin trading subaccount to the users.

16   Q. I believe my question was simply: Did Alameda, in one of

17   its subaccounts, engage in margin trading?

18   A. Well, it didn't—I don't think either of those two accounts

19   borrowed on the spot margin or—one of them was "Allow

20   Negative," the other one engaged in spot margin lending.

21   Q. All right. Well, you said that Alameda borrowed money from

22   the exchange, yes?

23   A. Yes.

24   Q. And you spoke to Sam early on about Alameda's borrowing

25   from FTX; is that right?

1   A.   Yes.

2   Q.   Okay. I think you recalled a conversation in about 2019 or

3   2020; is that right?

4   A.   Yes.

5   Q.   And you recall noticing that Alameda had a large negative

6   account balance on FTX.

7   A.   Yes.

8   Q.   Okay. And I think you understood the balance was at that

9   point roughly 100 million?

10   A.   Are you referring to the first conversation I had with Sam

11   or the second conversation?

12   Q.   Maybe the first conversation.

13   A.   The one—well, the one where the Alameda trader came up to

14   him or the one where I brought up the issue with him?

15   Q.   The one where the trader came up to him.

16   A.   I think they were borrowing a hundred—yeah, about a

17   hundred million, yes.

18   Q.   And you said that that balance you saw was bigger because

19   you had had the conversation around FTX's revenue at the time.

20   A.   No. This was when a trader from Alameda came up to Sam to

21   ask him if it's fine for Alameda to continue borrowing and—to

22   continue borrowing, and Sam said yes because at this point

23   Alameda's borrowing was less than FTX's trading revenue to

24   date.

25   Q.   Right. And so that Alameda's borrowing at that point was

1   less than FTX's trading revenue to date, right?

2   A.   Yes.

3   Q.   And you talked to Sam about that, right?

4   A.   No, that I did not talk to Sam about. It was later on,

5   referencing this conversation that I heard, that I talked to

6   Sam about, because at that point Alameda's negative balance had

7   exceeded FTX's trading revenue, which was inconsistent with

8   what I remember him saying to the Alameda trader.

9   Q.   Right. Okay. So you approached Sam and you discussed that

10   with him on that date, right?

11   A.   Yes.

12   Q.   Okay. And when was that?

13   A.   This was late 2019, early 2020.

14   Q.   Okay. And what was Sam's response to that?

15   A.   Sam asked me if I was including all of Alameda's accounts

16   on FTX, including Cottonwood Grove, and asking about including

17   the FTT in those accounts.

18   Q.   Okay. So he asked whether you were including other assets,

19   right?

20   A.   Yes.

21   Q.   Including FTT, right?

22   A.   Yes.

23   Q.   Okay. And you accepted that explanation?

24   A.   I—well, I—I said I was not including those assets, and

25   then I redid the calculation including those assets and I told

1   him that after including those assets, then it's now positive

2   on FTX. And yes, I—and then—and then he said that since the

3   net total was positive, then this was fine, and then I accepted

4   that.

5   Q. Right. Okay. So let's break that down. He asked you if

6   you were including other assets, right?

7   A. Yes.

8   Q. And one of them was Cottonwood, you said?

9   A. The assets held in the Cottonwood account on FTX.

10   Q. What's Cottonwood?

11   A. It's Alameda's—it's one of Alameda's subsidiary entities.

12   Q. Okay. So it's an Alameda subsidiary, right?

13   A. Yes.

14   Q. And so he pointed out some other assets that Alameda had

15   that you hadn't been considering, right?

16   A. Yes.

17   Q. Okay. And he said that when you include all of those

18   assets and you tally them up, it covers the amount that Alameda

19   is borrowing at that point, right?

20   A. Yes.

21   Q. Okay. And you said that you accepted that from him, right?

22   A. Yes.

23   Q. Okay. You had no reason to doubt him at the time, right?

24   A. Well, I wouldn't—I wasn't sure either way if it was okay

25   or not, but I trusted his judgment. He said it was okay, so I

1   thought probably it was okay.

2   Q. Okay. And, well, you didn't, for example, check what the

3   FTX terms of service said about that topic, did you?

4   A. No.

5   Q. Okay. You accepted Sam's.

6   A. Yes.

7   Q. All right. Okay. I'm going to return to that later too,

8   but let's talk briefly about another role Alameda performed for

9   the exchange, okay?

10   A. Okay.

11   Q. Let's talk very briefly about Alameda's role in receiving

12   FTX customer fiat deposits, okay?

13   A. Yes.

14   Q. All right. You said that FTX used Alameda's bank accounts

15   to receive FTX customer cash deposits, right?

16   A. Yes.

17   Q. And FTX also processed withdrawals through those same

18   accounts.

19   A. Yes.

20   Q. And that lasted until about the end of 2021; is that right?

21   A. Yes.

22   Q. That's when FTX got its own bank accounts?

23   A. Around that time.

24   Q. Okay. Mr. Wang, are you aware of any instance prior to

25   November 2022, around the time of the bankruptcy, when Alameda

1   failed to process a customer withdrawal request?

2   A. I mean, sometimes there weren't enough——sometimes wallets

3   or bank accounts were running low and there was a delay caused

4   by needing to——by Alameda needing to transfer money in.

5   Q. Well, apart from those instances where Alameda needed to

6   transfer a little money in, did it happen in those instances?

7   MR. ROOS: Objection, form.

8   THE COURT: Sustained as to form.

9   Q. I'll rephrase. Did Alameda transfer money on those

10 occasions?

11 A. Yes, after——sometimes it took a few hours, but yes.

12 Q. But it would take about a few hours, you said, right?

13 A. Yes.

14 Q. So pretty quickly that would be resolved.

15 A. Yes.

16 Q. Okay. Apart from what you just described, prior to

17 November 2022, around the time of the bankruptcy that you

18 described, are you aware of any instance where Alameda failed

19 to process a customer withdrawal request?

20 A. Not for longer than a day.

21 Q. Okay. All right. Now just talk briefly about the fiat@

22 ledger, just the mechanics of it.

23 A. Yes.

24 Q. Okay. You testified about the fiat@ ledger, correct?

25 A. Yes.

1 Q. Did you create that ledger?

2 A. Either I created it or Nishad created it.

3 Q. Okay. Now once the fiat funds were deposited into the

4 Alameda accounts, a few things could happen to them, right?

5 They could stay in the bank account, right?

6   MR. ROOS: Objection. Just to the form.

7   MR. EVERDELL: I'll rephrase, your Honor, if you want.

8   THE COURT: All right. Go ahead.

9 Q. Once the fiat funds were deposited in the Alameda bank

10 accounts, they could stay in the bank accounts, right?

11 A. Yes.

12 Q. Okay. Then the fiat@ account would reflect the full amount

13 of cash that stayed in the Alameda account, right?

14 A. If Alameda never withdrew funds from the account, yes.

15 Q. Okay. Correct. And the second possibility was the cash

16 could be converted to stablecoin, right?

17 A. Yes.

18 Q. And Alameda could take the customer's cash deposit and buy

19 the stablecoin, right?

20 A. Yes.

21 Q. And then Alameda would send those stablecoin to FTX.

22 A. Yes.

23 Q. And if it did that, the fiat@ account would become less

24 negative at that point, right?

25 A. No. The—if it did that, the bank account would have less

1   money in it, but the fiat@ftx.com account would still have the

2   same balance as before.

3   Q.   Understood.   Okay.   But the stablecoin would be transferred

4   to FTX, right?

5   A.   The stablecoin would be deposited into——Alameda would take

6   those stablecoin and deposit them into Alameda's own account on

7   FTX, so the fiat@ account could still be negative but the

8   Alameda account would be——would now be more positive.

9   Q.   Alameda's own bank account.

10 A.   No.   Alameda's account on FTX.

11 Q.   Alameda's account on FTX, because it would have stablecoin

12 on that account.

13 A.   There would now be fewer dollars in Alameda's bank account,

14 there would be more dollars——there would be more stablecoin in

15 FTX's wallets, the number in the database at fiat would stay

16 the same, and the number in FTX's database for Alameda would

17 increase.

18 Q.   Understood.   All right.   And it was your understanding that

19 that's ideally how the situation should have happened, where it

20 was converted to stablecoin?

21   MR. ROOS: Objection to "ideally."

22   MR. EVERDELL: I'm sorry, your Honor?

23   THE COURT: I'm sorry.

24   MR. EVERDELL: I think there was an objection.

25   MR. ROOS: I objected on form to the description of

1   "ideally."

2   THE COURT: Sustained as to form.

3   MR. EVERDELL: Okay. I'll rephrase.

4   BY MR. EVERDELL:

5   Q. And was it your understanding that the customer fiat

6   deposits that went to the bank account would normally be

7   converted to stablecoin?

8   A. Yes.

9   Q. Okay. But there was no rule that that had to happen,

10   right?

11   A. I'm not sure if there was a—it was explicitly stated

12   anywhere on the website, but it was mentioned to auditors by

13   Nishad at one point.

14   Q. Okay. Before we return to those, I just have a few smaller

15   questions, because I think we're getting toward the end of our

16   time.

17   MR. EVERDELL: But I'll do a few small things, your

18   Honor, if I could.

19   Q. First, Mr. Wang, you testified earlier, I think it was the

20   day before, that you met Sam at camp; is that right?

21   A. Yes.

22   Q. That was a math camp for gifted students, right?

23   A. Yes.

24   Q. Let me talk just briefly about your role at FTX, if I

25   could.

1   A.   Yes.

2   Q.   All right. You were the chief technical officer; is that

3   right?

4   A.   Yes.

5   Q.   That's the CTO, right?

6   A.   Yes.

7   MR. ROOS: Objection. This is all cumulative of the

8   direct.

9   THE COURT: Yes. Well, this part is anyway.

10   MR. EVERDELL: All right. I'll move on.

11   Q.   So your role was focused on the code and the code base,

12   right?

13   A.   Yes.

14   Q.   Okay.

15   MR. ROOS: Objection.

16   THE COURT: It's been answered, but let's stop that,

17   please.

18   MR. EVERDELL: Okay. Understood, your Honor.

19   Q.   You were not focused on the business side of the business?

20   THE COURT: What part of "let's stop that" was

21   obscure?

22   MR. EVERDELL: Okay. All right.

23   Q.   Let's talk briefly about the growth of FTX, okay?

24   A.   Okay.

25   Q.   Once FTX launched in 2019, fair to say it grew very

1   quickly?

2   A.   Yes.

3   Q.   Do you know how many employees it had when you started in

4   2019?

5   A.   When we started, it was just Sam and I working directly on

6   FTX, and like—and then a couple other people.

7   Q.   And then by 2022, how many did you have, roughly?

8   THE COURT: Counsel, we really did cover all of this,

9   and it's uncontroversial, and if we're really going on because

10   you want to get right to the dot of 2, I think we can break

11   seven minutes early and let you start off afresh on Tuesday.

12   MR. EVERDELL: Sure.   That sounds fine, your Honor.

13   THE COURT: All right, folks.   Have a wonderful

14   weekend and we'll see you Tuesday at 9:30.

15   (Continued on next page)

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1   (Jury not present)

2   THE COURT: Okay. Be seated, please.

3   What's up?

4   MR. ROOS: I'm going to let the witness walk out of

5   the room, if that's okay.

6   THE COURT: I'm sure that will come as a relief.

7   MR. ROOS: So he's on cross. We're not going to talk

8   to him. I wanted to mention the two exceptions to that. One

9   is, he's going to speak with some agents just about what time

10 to appear on Tuesday; and the second is, to the extent he needs

11 hotel or travel arrangements extended past this week, we're

12 going to deal with that. But it won't be me. It will be

13 someone who does those things. I just wanted to put those on

14 the record.

15   In terms of his cross-examination, there were several

16 times Mr. Everdell said "we'll come back to this," or, "I'm

17 going to come back to this further." I just want to put a

18 marker down that we intend to object to that if we're just

19 repeating things or revisiting topics on Tuesday when we pick

20 up. It sort of seemed like he wants a second shot at a bunch

21 of things he already crossed on.

22   THE COURT: Well, look, we take these things one thing

23 at a time. My position on repeating stuff is pretty clear at

24 this point, but I can imagine coming back to a subject and

25 simply directing the witness's attention to what the subject is

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1   about to be and then asking new questions, and I'm not going to

2   have a problem with that.

3   MR. ROOS: Thank you, your Honor.

4   And then the last thing is, yesterday evening your

5   Honor asked about the schedule for next week.

6   THE COURT: Yes.

7   MR. ROOS: So we'll have the conclusion of the cross

8   of Mr. Wang on Tuesday, and then we intend to start

9   Ms. Ellison, Caroline Ellison.

10   THE COURT: One other thing I may wish to raise with

11   you.

12   There is something I want to bring to the attention of

13   counsel, and we have plenty of time, but it occurs to me to

14   utter the phrase "buried facts doctrine" and to put in your

15   mind the question of whether it has any relevance here or

16   anything analogous to it, and whether it's going to affect the

17   charge. So I leave that to you. But if you Google "buried

18   facts doctrine," you'll find out what I'm talking about, if you

19   don't know it already.

20   MR. ROOS: Thank you, your Honor.

21   THE COURT: Okay. Thank you.

22   MR. COHEN: Thank you, your Honor.

23   THE DEPUTY CLERK: All rise.

24   (Adjourned to October 10, 2023, at 9:30 a.m.)

25

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